



Goshen Theater Goshen, Indiana Feasibility Report

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The purpose of this study is to determine the feasibility of redeveloping the Goshen Theater. The interest of the taskforce is to utilize the theater for visual and performing art, so as to provide cultural, educational and entertainment benefits to the community. Our study investigated and document existing conditions, including CADD plans and elevations. We have also determined the condition of the existing mechanical, electrical, plumbing, structural and theatrical systems. These investigations included the evaluation of accessibility issues and general code compliance. In addition to the physical review of the theater and adjacent building, Stakeholder meetings and a market analysis was done to determine the best use of the building. The description of the study areas and tasks are noted below. The information gathered during these tasks influenced the overall concept and recommendations illustrated in this study.

1. **Investigation:** Document existing conditions, including plans and elevations, and review prior historical plans. Determine condition of the existing mechanical, electrical and plumbing, structural and theatrical systems. Evaluate accessibility issues, code compliance issues and historic restoration issues. Evaluate the building exterior envelope.
2. **Market Study:** Determine potential participation in performing arts and other cultural activities. AMS and WRL gathered relevant data on the population and current arts audiences in the city, county, and the surrounding market area. A population analysis was conducted based on current and projected demographics and lifestyle data.
3. **Stakeholder Meeting / Programming:** During a one-day site visit, WRL conducted a programming and planning charette with potential users and key stakeholders in order to identify and describe realistic proposed uses for the building. Considerations was given to the following functional elements: patron seating; theater storage; workshop; wardrobe facilities; warm-up areas; dressing rooms; loading zones; green room; sound/light control and projection locations; dimmer room; artist and patron support facilities; box office; concession areas; retail sales area; banquet and kitchen facilities; other special spaces related to production, performance, patron and administrative functions. As an outcome of this meeting, a space program and plan developed at a conceptual level required to meet the needs of potential new users and current event programs.
4. **Design and Planning (Space Needs Analysis):** based on existing condition and program, create concept design plan(s), elevations, sections, interior and exterior renderings that showing renovation and suggested new construction
5. **Comparables:** Compile operating “benchmarks” based on research into four comparably-sized performing arts facilities (restored historic theaters) in selected markets that may be similar in aspects to Goshen.
6. **Estimating:** Provide a budget for the recommended renovations. Review and adjust the budget to meet the project goals.
7. **Business Plan / Management and Staffing:** A management and staffing plan is a central element of the operating forecast. AMS has researched organizational, operational, and compensation models for dozens of national performing arts center clients. The result of this research forms the basis of the recommended organizational model.

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Project Goals

The Goshen Theater Task Force's goal is to complete a renovation / rehabilitation of the theatre, with the flexibility to meet the needs of multiple disciplines including live music and live theatre – among other secondary potential uses. The Goshen Theatre will provide a performance and entertainment experience for artists and patrons alike, while meeting modern standards and codes for entertainment venues - addressing accessibility and life safety issues. In addition to the theatre the report also included consideration into the use and rehabilitation of the Menno Travel building, a separate commercial property that shares a façade with the Goshen Theatre. This renovation intends to meet the Secretary of the Interior's Standards for the treatment of Historic Properties using the Guidelines for Historic Rehabilitation.

Process

The first step in this process is to articulate the vision and renovation plan for the theatre for the benefit of the Task Force. The vision and renovation plans were developed using the following process; Market Study, Stakeholder Meetings and Programming, Design and Planning Development, Theatre Comparables, Estimating and a Business/ Management and Staffing Plan. This process which is further detailed in the Introduction Section of this report, helped develop the recommended planning and business model detailed in the body of this report.

This process revealed a user and patron base that centered on music performances. This determination set the base for the planning and business models. Much of the planning centered on the deficiencies of the public and performer support areas. These spaces were either non-existent or undersized for the current and future uses of the theatre. To satisfy these needs the recommended plan adjustments used existing commercial space and the rear of the Menno Travel building to expand the current theatre footprint. The planning recommendations further detailed the addition of an elevator to provide ADA access to all floors within the Goshen Theatre building as well as the Menno Travel building. These recommendations as well as all of the Mechanical, Electrical, Theatrical and audio Video systems are further detail in the body of this report.

Construction Cost

Once the planning and systems recommendations were completed the conceptual project was then estimate for the cost of construction. This process takes the planned area along with the detailed information listed in the system narratives and developed the opinion of construction costs for the project. This opinion includes all of the systems, theatrical and AV equipment, escalation for a construction start in one year and both design and change order contingencies. The total probable cost of construction is \$7,622,735. This is only the construction value and does not include additional Owner costs for a complete project budget.

Funding

This report has been funded by a grant from the U.S. Department of the Interior, National Park Service's Historic Preservation Fund administered by the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology. The project received federal financial assistance for the identification of the historic property in the State of Indiana. However, the contents and opinions contained in this publication do not necessarily reflect the views or policies of the U.S. Department of the Interior. The funding of the renovation project could be through a combination of sources. Some of the possible sources could be Federal and State Historic Tax Credit programs (which could net 18% of the construction costs), Local or Regional Grant programs, New Market Tax Credits. Each of these programs requires the project to meet certain requirements or standards and the overall value to the project will depend on the opportunities. These standards and values should be understood before perusing these funding sources. Other sources may include National or Local Foundations that support the Arts for capitol campaigns and local major donors and community donorship.



**Goshen Theater
Feasibility Study
Market Study Report**

June, 2012

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Summary

The City of Goshen, in association with Downtown Goshen Inc., engaged the architectural firm Westlake Reed Leskosky (WRL) in partnership with AMS Planning & Research (AMS) to develop a technical and operating plan for a renovated Goshen Theater. The project is funded in part by a grant from the U.S. Department of the Interior, National Park Service's Historic Preservation Fund Program, and is administered by the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology.

AMS engaged in a series of tasks to identify community and market interest in the project, assess potential use of a renovated theater, study comparable facilities in the United States, and create an activity profile and operating plan based on input received.

A renovated and expanded Goshen Theater can provide important community impact and an anchor to downtown vitality. To ensure success the venue must accommodate a significant variety of uses and users. Conversations with promoters and potential users as well as an analysis of current facility activity suggest that the Goshen Theater could host at least 100 events annually, with the building in use about twice as many days.

Market Assessment and Community Input

Market Analysis

AMS conducted a market analysis of the Goshen area in order to determine the relative presence of market characteristics that typically engage in arts and cultural activities. A detailed analysis is provided in Appendix 1.

Three trade areas were analyzed: the city of Goshen, the Elkhart-Goshen CBSA, and the state of Indiana. Goshen, Indiana has a total estimated population of 32,206, which is a 9% increase over its population from the census in 2000, and which represents 27% of the CBSA population (112,605). Population growth in the City has outpaced that of the CBSA or the state, and, while is projected to slow, it will continue to do so.

The city of Goshen has a markedly higher Hispanic population than the Elkhart-Goshen, IN CBSA and the state of Indiana, and, conversely, both the state of Indiana and the Elkhart-Goshen CBSA have a higher Black population than the city of Goshen. The presence of households with children is fairly consistent across all three geographic areas. The median age for the city of Goshen is slightly younger than the Elkhart-Goshen, IN CBSA at 33.8.

Education level is a significant predictor of interest and participation in arts and cultural activities. Goshen has a similar percentage of its population with college degrees as the entire state of Indiana, which is also close to the national average.

Household income is also significant predictor of arts participation. The city of Goshen has a slightly higher median income than the other two geographic areas of study at \$43,610 (Elkhart-Goshen CBSA \$42,650 and state of Indiana \$42,800). The city of Goshen equals or surpasses the CBSA and state in its proportion of households with annual income between \$35,000 and \$100,000, but falls below the state and region in proportion of households with income above \$100,000.

Beyond demographics, AMS reviewed consumer data that included family life cycle, purchasing patterns, financial behavior, and demands for products and services, including cultural activities (see Appendix 1). Our review of the market data suggests that the Goshen, IN area offers a reasonable but not robust market potential for arts participation. The consumer data indicate that household lifestyle attributes related to arts participation in the market area falls at or above the national average in some areas of interest, especially musical (hip hop, contemporary pop, religious/gospel, Latin) but well below the national average in more traditional forms of cultural arts offerings (dance, classical music, theater, museums). Further, indices reflect a predisposition towards consuming product, but not attending events.

Program diversity and outreach efforts will be required to grow audiences for the Goshen Theater. Additionally, there is an economic price sensitivity that must be recognized.

Competition

Competition for a renovated Goshen Theater is limited. In Goshen proper there are several smaller venues occasionally or regularly used for bands and popular events including Electric Brew, Concert Spring, The Refuge, and Ignition. Blue Gate Theater at Shippshewana Town Center is a family-oriented theater that seats 325, and the Old Bag Factory is used occasionally for conferences or performances.

The Music Center at Goshen College includes Sauder Hall, which is a 900-seat purpose built facility for music. In addition to college and Music Center events the annual performing arts series features eight internationally-known artist performances available by subscription. The most recent series included such recognized artists as Manhattan Transfer, Mary Chapin Carpenter, Carolina Chocolate Crops, Nadja Salerno-Sonnenberg, Vance George, Mark O'Connor, and Cherish the Ladies. Individual event ticket prices range from \$20 to \$40, and season packages of 6, 7 or 8 shows are \$130 to \$280.

Also at Goshen College is The Umble Center, which includes a 419-seat thrust theater which was renovated in 2001, and which is predominantly used in service of the College Theater Department.

About 12-miles Northwest of Goshen, The Lerner Theatre in Elkhart is a recently renovated 1,700-seat historic theater. Opened in 1924, it was purchased by the City of Elkhart in 1990 to avoid further deterioration or even demolition of this historic building. The \$18 million renovation was complemented by the creation of a performing arts district.

Under the management of the city the Elkhart Theatre is home to two resident companies: Premier Arts (theater) and The Elkhart Symphony. It hosts more than 200 annual events and shows including concerts, comedians, dance recitals, private functions and other performances. The Crystal Ballroom is a 6,000 square-foot meeting and event space.

The Elkhart Civic Theatre is a community theater group that performs at Historic Bristol Opera House in Bristol Indiana. They consider Goshen to be outside of their market area and expressed some interest in using the Goshen Theater on a limited basis.

South Bend

While South Bend offers an array of performance venues and events, conversations with regional promoters indicated that there wasn't much in the area of a similar size to the Goshen Theater. They were enthusiastic about the opportunity to offer expanded access to the regional market for certain regional touring bands.

The Morris Performing Arts Center in South Bend is a 2500-seat performing arts center in downtown South Bend that hosts an array of activities including pop, rock, country and Christian concerts, national touring Broadway shows and other popular acts and comedians. It is the home of Broadway Theatre League of South Bend, Inc., South Bend Symphony Orchestra, and Southold Dance Theater.

Century Center Convention Center includes the 694-fixed seat Bendix Theatre as well as a 166-seat recital hall, which is home to The Acting Ensemble. The DeBartolo Performing Arts Center at Notre Dame hosts an array of touring productions in its 950-seat concert hall, 570-seat thrust theater, 360-seat proscenium theater, and 200-seat cinema.

In 2007 South Bend Civic Theatre acquired the former Scottish Rite Building downtown and renovated it into a 209-seat Mainstage and 70-seat black box theater.

Community Leadership Interest

AMS and WRL met in one-on-one, and small group meetings in person and by telephone with area leaders, project stakeholders and potential users of a renovated Goshen Theater. The goal was to gather feedback regarding the level of support for the project, the vision for programming, impressions regarding the market and competition, and other general concerns or opportunities related to the initiative.

Those interviewed were generally supportive of the renovation effort. Most believe that it could be a significant draw to downtown and would support both local groups (theater groups, musical acts) as well as touring musical groups not accommodated elsewhere in the area due to its size.

Respondents believe that renovation of the theater would significantly enhance its current utilization, and would draw from and grow the existing Downtown customer base. Post-renovation it could serve as an anchor for music festivals and other regional events that would complement the already successful First Fridays initiative. Important to many was the preservation of the historic building and its ability to garner attention and serve as a source of civic pride in the area.

The arts community is viewed to be thriving and diverse. Driven by the student population, it is welcoming to new artists and entrepreneurial. Events are supported by word of mouth and social media. An emphasis on community is reflected in preferences and support for Indie and religious music, folk arts, artist talks and other indigenous forms of expression.

In keeping with this spirit of belonging, or community, success for a renovation Goshen Theater was defined holistically; including a vibrant downtown with successful shops and restaurants, and a theater full of diverse activity and audiences serving as a community “hub” or “center” of activity. There is a strong expectation that the Goshen Theater welcome a myri-

ad of activities, with respondents including items such as art classes, youth productions, proms and dances, pageants, “school of rock,” graduations, broadcasting, camps and church alongside the more traditional country, jazz, Indie rock, theater, popular music, inspirational, musical theater, bands and orchestras as events they would expect to find at the theater.

There were limited concerns expressed, the most consistent of which was to ensure that the building be available to a broad array of artists and organizations; that its use not be dominated by a few. Respondents stressed the importance of maintaining reasonable rental fees to ensure access. The need to balance the integrity of the historic renovation with required updates and modest capital investment was also a subject of interest.

Universally respondents expressed appreciation for the current manager of the Goshen Theater, and noted his capacity to draw acts and his creative approach to marketing and audience development as important assets.

Community Survey

AMS conducted a web-based community survey to gather behavioral and spending data related to participation in, or attendance at, arts and cultural events and activities; understand programming preferences; and test opinions regarding the potential renovation of the Goshen Theater. The complete survey report including methodology can be found in Appendix 2.

98% of respondents were aware of the Goshen Theater, and the same number favored its renovation; however, 41% also cited satisfaction with the current state of the Goshen Theater.

For those who currently attend the Goshen Theater, First Friday events are the most widely attended events (76.9%), with popular music (57.1%), dramatic performances (49.5%) and films (48.4%) the next most attended respectively.

Respondents believe a consistent mix of performances, films and other activities should be maintained in a renovated Goshen Theater. 90.1% of respondents envision First Friday events continuing to take place in a renovated Goshen Theater; 85.6% envision dramatic performances; 81.7% envision films. Local or regional music acts and popular entertainment also ranked quite high. When asked about artists or groups who might use the facility, most cited community-based groups.

Respondents believe ticket pricing for events at a renovated theater should be affordable at \$20 or less. More than half of all respondents noted that they both meet friends and have a full meal before or after attending an event. Finally, the content (specific works or performers), quality, and schedule (date/time of the event) are key drivers for decision-making. Those who were not aware of the Goshen Theater also cited cost as a significant factor.

Potential Users and their Needs

Current users of the facility are enthusiastic about its renovation and, for the most part, anticipate an increase in use should the facility be renovated. Additionally, AMS spoke with representatives from area arts organizations currently housed elsewhere who suggested they might expand offerings to take advantage of the venue on a limited basis. Specific detail is included in the activity profile, below.

Known potential uses include music (both acoustic and amplified), theater, film, and dance. In terms of physical requirements, it is important that the facility remain flexible and multi-purpose, with the ability to accommodate a wide range of activities, with limited cost to adjust the room for its intended purpose.

Specifically potential users cited the need for a larger stage, sprung for dance, with wing space and a backstage crossover; and a grid system for curtains and ability for hangs. Efficient load-in is a priority, with room backstage for road boxes, carts and storage. Also critical is improved technical equipment including sound, lighting and projection equipment, with production space for mixing and live feeds. The current capacity is deemed to be appropriate, although some people would like the flexibility to remove seats in the front for dancing at some events.

From a front-of-house perspective people seek an expanded lobby with concessions, merchandise space and appropriate

restrooms, and that the facility be fully ADA accessible. Existing ancillary spaces are expected to be heavily used for meetings, classes, rehearsal space and community and private gatherings.

Comparable Facilities

AMS conducted benchmark studies of four relevant venues to provide comparisons for the Goshen Theater's potential programs, attendance forecasts, staffing, and business plan. Criteria established to select theaters for study included market size, seat count, presence of a college or university, diversity of programming including community use, strong film and music programming, and other factors.

The theaters selected for study are The Paramount Theatre and Visual Arts Center in St. Cloud, Minnesota; The State Theatre in State College, Pennsylvania; The Avalon Theatre in Grand Junction, Colorado; and The Babcock Theater in Billings, Montana. Full reports can be found in Appendix 3.

Venue	Location	Population	Capacity
The Paramount Theatre and Visual Arts Center	St. Cloud, Minnesota	City – 68,842 CBSA – St. Cloud MN 191,082	714 seats
The State Theatre	State College, Pennsylvania	City – 42,034 CBSA – State College PA 148,371	571 seats
The Avalon Theatre	Grand Junction, Colorado	City – 58,566 CBSA – Grand Junction CO 148,772	900 seats
The Babcock Theater	Billings, Montana	City – 104,170 CBSA – Billings, MT 158,761	750 seats
Goshen Theater	Goshen, IN	City – 32,206 CBSA – Elkhart-Goshen 112,605	750 seats

The Paramount Theatre and Visual Arts Center St. Cloud, Minnesota



The mission of the Paramount Theatre & Visual Arts Center is: *to provide opportunities for artistic production, creative exploration, arts education and the enjoyment of arts and entertainment.*

The facility is managed to ensure use by a diverse set of patrons, enhance artistic opportunity, provide a creative environment for community involvement in the arts, and generate a positive economic impact on Downtown St. Cloud.

Built in 1921, the theater was first renovated in 1930 and has been upgraded and renovated in phases over multiple years; most recently in the 1990's.

Owned by the City of St. Cloud and operated by Paramount Arts Resource Trust, a private, nonprofit 501(c)(3) organization, facilities include a 714-seat theater and a visual arts center, as well as Paramount Gallery and Gifts next door. There is a board of directors of 16 members and a staff of 9. The 2010 operating budget is \$950,000.

The Paramount Theatre and Visual Arts Center is a rental only facility which hosts approximately 50 performances each year, as well as studio art classes. Performances include jazz music, folk music, musical theater, theater, comedy, film, dance, choral music, country music, community band, lectures, and popular music. There are no resident companies, but details on programming offerings are divided into community versus commercial activities, with 80% of the events designated as community rentals.

The State Theatre State College, Pennsylvania



The State Theatre is owned by the City of State College and operated by The State Theatre Inc., a 501(c)(3) private, nonprofit organization. The theater is 571 seats and is mostly used for rentals, although they do host some presentations. The mission is: *We are a vibrant, inclusive theatre, offering our venue as a community stage, a center for local, regional, and international performers, an experiential learning environment, and a responsive philanthropic space.*

Built in 1938 as a movie house, it was renovated in 2006 for live performances and events after being shuttered in 1999. The theater is complemented by an upper lobby / studio theatre which is appropriate for receptions, luncheons and dinners, meetings and smaller productions.

Programming at the State Theatre is a mix of presentations and promoters. The more community based film series and family events are produced by the theater itself, and popular music is booked through promoters. Including film, there were 177 performances from August 2011 to May 2012 in the State Theatre. Performances included film, musical theater, choral music, variety, theater, lecture, family, popular music, orchestral music, jazz music, dance, and comedy.

The State Theatre has a 14-member Board of Directors and employs a staff of 24. The annual operating budget for fiscal year 2010 was \$1,618,838, with revenues of \$1,305,781, resulting in an operating loss of \$300,000. The State is “fine-tuning its programming approach, courting community and corporate interests and maturing its fundraising efforts.”

June 15, 2012

Avalon Theatre Grand Junction, Colorado



The Avalon Theatre is a 900-seat historic theater which anchors Grand Junction’s downtown district. Built in 1923 for the residents of Grand Junction by local publishing giant Walter Walker, the Avalon Theatre was and still is one of Western Colorado's largest performing arts halls. The mission of the Avalon Theatre is *to serve as the cultural hub for Grand Junction. We strive to serve the diverse tastes of our community with a balanced mix of cultural opportunities; to provide a supportive environment for local arts organizations and a welcoming experience for audiences; and to be an economic catalyst for Downtown Grand Junction.*

In addition to playing first-run movies, the Avalon Theatre shows independent and foreign films. Live productions include concerts, theatrical performances and dance recitals, and the theater is rented for private functions. There is a Broadway series and it is the home of performances by the Grand Junction Symphony Orchestra. The Avalon Theatre hosts 65 events per season.

The theater is owned by the City of Grand Junction and operated by the Two Rivers Convention Center, an agency of the City of Grand Junction. It is supported by a staff of 2 full-time and 4 part-time staff members which are shared between the facilities. Dedicated operating expenses budgeted in 2012 were \$236,000.

Babcock Building Billings, Montana



The Babcock Building is owned by Babcock, LLC. Babcock, LLC consists of four stakeholders and was granted a development agreement in 2009 to redevelop and restore the historic Babcock Theater where they will turn over the theater to the city (or the city's designated party) in 2016.

The Babcock Building features the 750-seat historic Babcock Theater, 14 apartments, and 5 retail spaces. The apartments are currently fully occupied along with the retail spaces. It is located in the center of downtown Billings and takes up one-quarter of a city block.

The Babcock hosts First Friday events and is a part of the downtown ArtWalks. A rental-only facility, The Babcock Theater hosted 33 programs from Aug. 2011 to July 2012. The building is used for film, popular music, poetry readings, com-

edy, band and orchestral music, dance, and meetings. While there are no resident companies, the Billings Symphony, and Community Band do perform there. All events are considered rentals except for the First Friday events and ArtWalk events which are community-sponsored events that use the facility for free.

The case studies represent a variety of operating models and will serve as benchmarks for activity assumptions, staffing and finances in the business plan for a renovated Goshen Theater.

Activity Profile

Current Activity

AMS analyzed current activity at the Goshen Theater to understand a baseline from which activity at a renovated theater would grow.

Currently the Goshen Theater is used about 133 days each year. This includes 99 “event days,” (days where an audience is present) and 43 “non-event days” (load-in, rehearsal, etc.).

These figures do not include activity by a number of rental clients that include a church, local dance company, and the Goshen Park and Recreation Department.

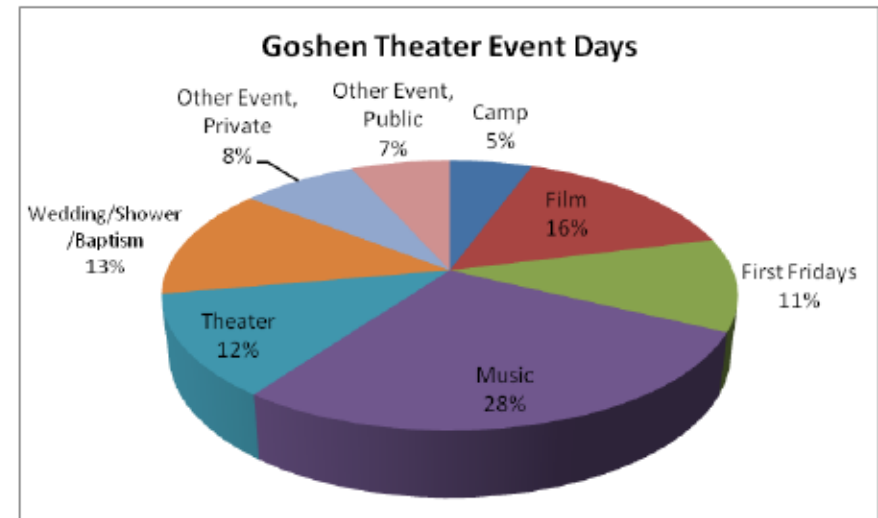
In 2011, activity at the Goshen Theater broke down as follows:

Activity Type	Number of Uses	Percentage of Use
Performance	52	58%
Private	18	20%
Community	13	14%
Youth	7	8%

Performances include concerts, film, theater, speakers, and pageants. Private events include weddings, baptisms, showers, corporate meetings, fundraisers, and photo/video shoots. The “Community” designation includes First Fridays and civic

meetings. Youth activity represents school or religious events specific to youth, and camps.

A more detailed breakdown of the nature of use for “event days” is as follows:



Potential Activity

Conversations with area promoters and potential users identified potential use by several organizations and promoters, including LVD, Shaffer, Midwest Music Association, Midwest Unplugged, Ignition, New World Arts, Elkhart Civic Theatre, Goshen Parks and Recreation Department, area dance schools, Goshen College, and other promoters. Regular activity during First Fridays is also anticipated.

While the activity profile below reflects their thinking to date, the exact nature and frequency of use will be dependent on renovation timing, ability to schedule dates on the calendar, rental rates, and market conditions at the time of re-opening.

Based upon this feedback and an analysis of the current activity profile of the Goshen Theater the following activity profile for a renovated Goshen Theater was developed:

Genre	Frequency	Activity
Popular Music Concerts	45 shows per year	Regional and national bands, Christian music, live web performances
Theater performances	12 weeks, 13 performances	Theater productions, musicals, youth shows
Dance	4 weeks annually, 8 performances	Spring/Fall Dance Recitals
First Fridays	12	Movies, live bands, school groups
Film	16	Film
Other Public Events	12	Festivals, lectures
Camps	6	Culminating performances
Private Events	20	Weddings, showers, quinceaneras
Total days	223	
Total events	132	

Operating Pro Forma

Based on the activity profile, research into comparable facilities and our experience with similar venues, AMS prepared the operating pro forma estimate found in Appendix 4.

Notes and Assumptions

The report is based on the square footage and capacity figures provided by the Westlake Reed Leskowsky architectural program.

The five-year model contains the following escalations and assumptions:

- All figures are in 2012 dollars.
- Expenses escalate 3% annually; non-activity based revenues escalate 1.5% bi-annually.
- Rental rates increase 2% annually
- Salaries escalate 3% annually; fringe benefits rate for full-time employees is 25%; part-time 12%
- Commercial activity level increases 10% annually. For commercial activity the stated rental rates are a base only; renters pay the greater of this rate or 15% of ticket sales.

- Patrons pay a per-ticket facility charge of \$0.50 (non-profit) or \$1.00 (commercial) and there is a \$0.50 cent charge on tickets sold at the box office.
- At this level of planning AMS includes a 5% expense contingency
- All figures are rounded to the nearest \$10 or \$100, as appropriate

Summary

AMS looks at the third year post-reopening as a base, stable year of operation. In year 3 the Goshen Theater has an operating budget of approximately \$400,000, with operating revenues of \$306,000 and contributed income of \$51,000. Net results before capital improvements or contingency are (\$43,000).

Goshen Theater	
SCHEDULE 2: SUMMARY PRO FORMA	Year 3 (Base)
EARNED REVENUES	
Rental Income	\$184,000
Chargebacks & Cost Recovery	\$36,000
Retail (Net Revenues)	\$38,000
Box Office & Facility Fees	\$48,000
TOTAL EARNED REVENUES	\$306,000
OPERATING EXPENSES	
Compensation	\$155,000
Administrative Expenses	\$36,000
Building Operations	\$209,000
TOTAL OPERATING EXPENSES	\$400,000
OPERATING RESULT	\$(94,000)
SUPPORT & FUNDING	
Sponsorships & Events	\$51,000
TOTAL FUNDING	\$51,000
NET RESULTS	(\$43,000)
Annual Capital Improvements (Less Contingency)	(\$32,000) (\$22,000)
SURPLUS (DEFICIT)	\$(97,000)

Revenue

Operating revenue comes from facility rental and related charges (i.e. equipment rental, box office, etc.), concessions and food service, and per-ticket box office and facility fees.

Facility Rental

Performance day rental rates cover a 12-hour period, rehearsal rental rates are for a four-hour block. Preferred rates are offered to non-profit organizations, and it is assumed that theater and dance companies use a weekly rental rate plus the per performance fee. No rent is charged for First Fridays.

In establishing recommended rental rates AMS took current rates into consideration, as well as area competition. As is standard in the industry, there is a discounted rate for non-profit organizations and a premium charged for activity on the weekend.

Goshen Theater		
SCHEDULE 5A: THEATER RENTAL RATE SCHEDULE	Year 3 (Base)	
	Rates	
	Weekday (Mon-Thurs)	Weekend (Fri-Sun)
Non Profit Rate		
Performance (12 hr day)	\$470	\$550
Rehearsal (4 hours)	\$220	\$390
General Public		
Performance (12 hr day)*	\$790	\$940
Rehearsal (4 hours)	\$550	\$810
Weekly (performance extra)	\$0	\$1,040
* or 15% of sales		

We recommend that a policy be implemented that mitigates some of the risk for commercial promoters, at least in the early years while audiences are developed. Recommended commercial rates are approximately \$1 per ticket (\$1.20 on the weekend) which is on the lower side of industry standard. Promoters pay this rate or 15% of ticket sales, whichever is higher. This enables the venue to capitalize on the “upside” of successful events while enabling promoters to take risk in bringing content to Goshen.

Dance/Rehearsal Hall and Social Hall rental rates were established using comparable facility research and industry standard:

Goshen Theater		
SCHEDULE 5B: ANCILLARY ROOMS RENTAL RATE	Year 3 (Base)	
	Rates	
	(Mon-Thurs)	(Fri-Sun)
Non Profit Rate		
Dance/Rehearsal Hall	\$80	\$100
Social Hall	\$200	\$320
General Public		
Dance/Rehearsal Hall	\$150	\$200
Social Hall	\$270	\$370

Other Fees

In addition to facility rental expenses, users will pay a custodial fee. Part-time labor or other costs (security, ushers, etc.)

associated with the rental would be passed on to the renter at cost.

Goshen Theater					
SCHEDULE 11: HOUSE FEES & CHARGEBACKS					
Venue Charges		Transaction Average	Capture Rate	Year 3 (Base)	
				# Events	Total
<u>Custodial Fees</u>					
Theater		\$150.00	75%	122	\$13,700
Dance/Rehearsal Hall		\$25.00	50%	150	\$11,300
Social Hall		\$75.00	100%	73	\$10,900
			Total Chargebacks		\$35,900

Renters would have the option of using the Goshen box office; and patrons would pay a handling fee of \$0.50. In addition *all* patrons would be assessed a \$1.00 facility renovation fee (\$0.50 for nonprofit organizations). First Fridays and film events are exempt from these charges. Revenue from these sources in the base year is calculated as follows:

Goshen Theater			
SCHEDULE 10: BOX OFFICE CHARGES			
	Base Year		
	# of Events	Facility Fee	Ticket Handling Fee
Popular Music	54	\$25,108	\$12,554
Theater	21	\$5,375	\$5,375
Dance	8	\$2,000	\$2,000
First Fridays	12	\$-	\$-
Film	12	\$750	\$750
Other Public Events	15	\$6,171	\$3,086
Subtotal	122	\$39,404	\$23,764
TOTAL, SURCHARGES			\$63,168

Concessions & Catering

Estimates for concession sales vary according to type of facility use. Projections for banquet and reception catering uses of the Social Hall are based upon a percentage paid to the venue by the caterer:

Goshen Theater						
SCHEDULE 12: CONCESSIONS & CATERING						
Venue Charges	Transaction Average	Capture Rate	Year 3 (Base)			
			Tickets	Gross Sales	Contribution	
Concessions						
<u>Concerts & Other Public Events</u>						
Average Transaction	\$4.00	50%	31,279	\$62,600	\$12,500	
Contribution Margin		20%				
<u>Theater & Dance</u>						
Average Transaction	\$2.00	35%	14,750	\$10,300	\$2,100	
Contribution Margin		20%				
<u>First Fridays & Film</u>						
Average Transaction	\$3.00	40%	4,200	\$5,000	\$1,000	
Contribution Margin		20%				
Merchandise						
Average Transaction	\$10.00	15%	31,279	\$46,900	\$7,000	
Contribution Margin		15%				
Catering						
Banquet						
		Average Attendance				
Per Plate Average	\$25.00	80%	2,126	\$53,100	\$6,400	
Number of Events (%)		15%				
Total Commission		12%				
Receptions						
		Average Attendance				
Per Guest Average	\$12.00	80%	6,377	\$76,500	\$9,200	
Number of Events (%)		45%				
Total Commission		12%				
Total Concessions & Catering						\$38,200

Expenses

Expenses fall into three general categories: staff, building expense (occupancy), and administrative expense.

Staffing & Job Descriptions

AMS recommends two dedicated staff for the Goshen Theater management, with the ability to draw part-time resources for event services, box office staff and custodial needs on a per-event basis. AMS further recommends that the Goshen Theater engage in a volunteer recruitment program to assist with event needs such as ushering. The staffing complement for the Goshen Theater model is as follows:

Goshen Theater					
SCHEDULE 15: STAFFING AND COMPENSATION	Year 1	Year 2	Year 3 (Base)	Year 4	Year 5
Director	\$62,990	\$64,900	\$66,800	\$68,800	\$70,900
Production Manager	\$49,900	\$51,400	\$52,900	\$54,500	\$56,100
House Manager (hourly)	\$8,200	\$8,600	\$9,100	\$9,600	\$10,200
Box Office (hourly)	\$11,900	\$12,300	\$12,700	\$13,100	\$13,500
Custodian (part-time)	\$12,000	\$12,500	\$13,200	\$13,800	\$14,600
TOTAL STAFFING	\$144,990	\$149,700	\$154,700	\$159,800	\$165,300

Job Descriptions

Summary job descriptions for recommended positions follow.

Director

The Director is responsible for leading the strategic and planning efforts of the theater, and for providing fiscal leadership, which includes developing annual budgets, monitoring results and assisting with fundraising activities. This individual bears responsibility for all bookings and marketing activity. S/he manages relationships with promoters and key user groups, renters, community organizations and other relevant stakeholders, and supervises theater staff.

Production Manager

The Production Manager is responsible for the scheduling of the facility's productions and events, and is the primary technical contact for all parties renting the facility. In addition to maintaining production budgets, this individual monitors the condition of the facility and equipment and assists with facility maintenance.

House Manager (part-time)

The House Manager schedules, coordinates and supervises box office, concessions and retail sales for events, assists patrons with special requirements, coordinates the start of performances with stage personnel, and coordinates general emergency procedures (fire evacuation, severe weather and power outages, etc.). S/he is also responsible for volunteer coordination.

Box Office (hourly)

Box office staff sells tickets and fields telephone and walk-up inquiries related to events.

Custodian (part-time)

The custodian is responsible for making sure that the facility is clean and maintained in a manner that ensures the safety of all building occupants, and for reporting needed maintenance and repairs to the appropriate parties.

Building Expense (Occupancy)

AMS used square foot figures provided by Westlake Reed Leskosky estimated occupancy costs, benchmarked against facilities reporting to BOMA (Building Owners and Managers Association) for the South Bend market and information available from our benchmarking research in the field.

Goshen Theater		
SCHEDULE 13: BUILDING OPERATIONS EXPENSE BASIS	Total	Basis
Utilities (Gas, Electric, Water, Sewer)	\$51,900	\$ 1.75
Regular Cleaning & Maintenance	\$80,100	\$ 2.70
Insurance	\$14,800	\$ 0.50
Security	\$5,900	\$ 0.20
General Administration	\$44,500	\$ 1.50
Annual Capital Improvements	\$29,700	\$ 1.00
Total	\$226,900	
<i>Per Square Foot:</i>	<i>\$7.65</i>	

Administrative Expense

AMS projects general non-staff administrative expenses of \$24,000 in the base year in support of general theater operations, including telephone and IT expense, printing, postage and mailings, bank charges and other permits, and office supplies. The pro forma estimate also includes a monthly fee of \$1,000 for website management services.

Summary

There is considerable support for investment in the Goshen Theater to better accommodate a variety of uses and patrons. A renovated and expanded Goshen Theater can provide important community impact and an anchor to downtown vitality.

To ensure success the venue must accommodate a significant variety of uses and users. Conversations with promoters and potential users as well as an analysis of current facility activity suggest that the Goshen Theater could host at least 100 events annually, with the building in use about twice as many days.

The operating model recommended here contemplates ticket prices and rental fees that allow for broad community participation; however, the resulting revenue is not sufficient to cover operating costs. As audiences and promoter relationships are developed, operating subsidy will be required to ensure success.

Appendices

Appendix 1: Market Analysis

Appendix 2: Community Survey Results

Appendix 3: Comparable Facilities Report

Appendix 4: Operating Pro Forma



Goshen Theater Feasibility Study

Appendix 1: Market Area Characteristics and Lifestyle Analysis

June, 2012

Demographics

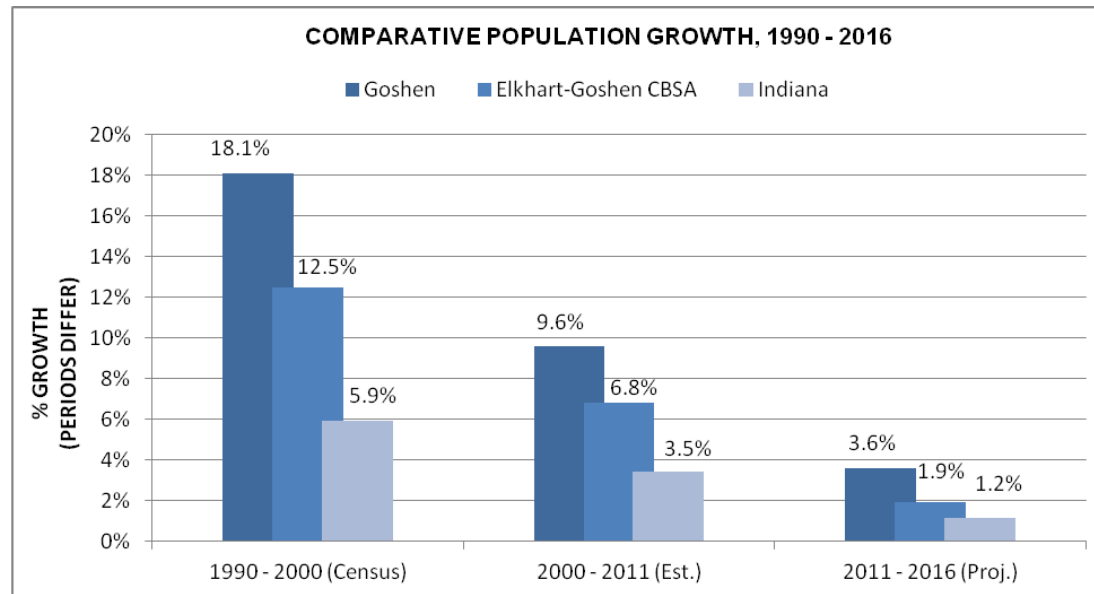
Goshen, Indiana has a total estimated population of 32,206, which is a 9% increase over its population from the census in 2000. For the Elkhart-Goshen, IN CBSA the estimated population is 112,605, which is 6% increase from its population from the census in 2000. Both of which are higher than the estimated population growth rate of the entire state of Indiana, which is estimated to be at 3%.

The city of Goshen has a markedly higher Hispanic population than the Elkhart-Goshen, IN CBSA and the state of Indiana. The state of Indiana has a higher Black population than the city of Goshen with the Elkhart-Goshen, IN CBSA in between.

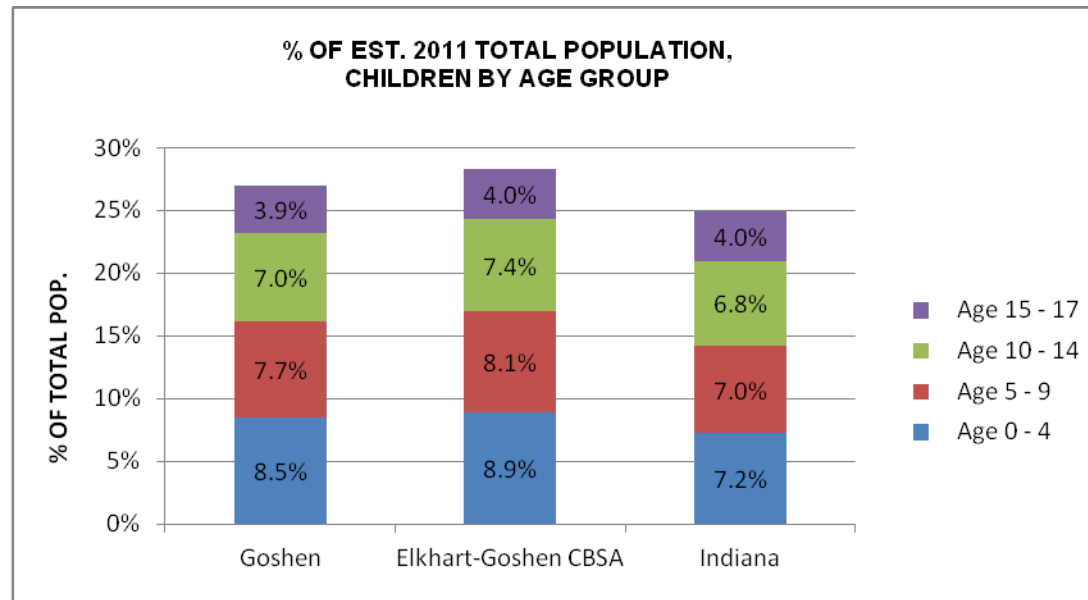
Goshen has a similar percentage of its population with college degrees as the entire state of Indiana. The presence of households with children is fairly consistent across all three geographic areas with the Elkhart-Goshen, IN CBSA having the largest percentage of households with children at about 38%. Additionally, the median age for the city of Goshen is slightly younger than the Elkhart-Goshen, IN CBSA at 33.8.

SUMMARY OF KEY DEMOGRAPHICS			
Variable	Goshen	Elkhart-Goshen, IN CBSA	Indiana
2011 Estimated Population	32,206	112,605	4,137,077
2000 Census Population	29,383	105,430	3,998,963
Median Age	33.8	34.1	35.9
% Generation Y (9-23 yrs)	20.7%	20.5%	21.0%
% Generation X (24-44 yrs)	29.4%	28.1%	27.0%
% Baby Boomers (45-65 yrs)	20.7%	22.5%	24.4%
% Mature (65+ Yrs)	13.0%	12.0%	13.4%
Median Household Income	\$43,608	\$42,651	\$42,802
% over \$75,000	18.1%	18.0%	21.8%
% with College Degree	22.4%	18.2%	22.8%
Households with Children	36.5%	37.5%	31.9%
% Black	1.9%	7.8%	13.2%
% Asian	1.4%	1.5%	1.7%
% Hispanic (all races)	33.6%	23.3%	7.5%

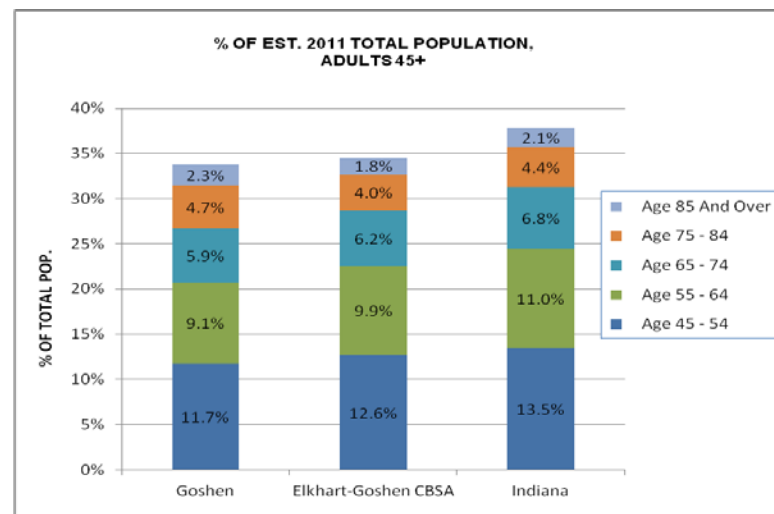
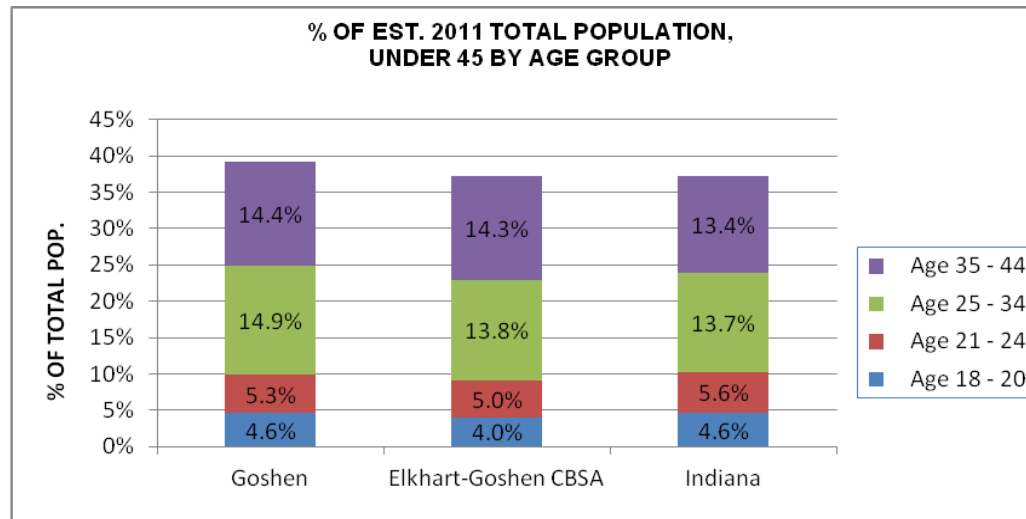
All three geographic areas of study are projected to see a decrease in the rate of population growth within the coming years. This provides a challenge as the growth of the market of potential audience members may be limited in the future.



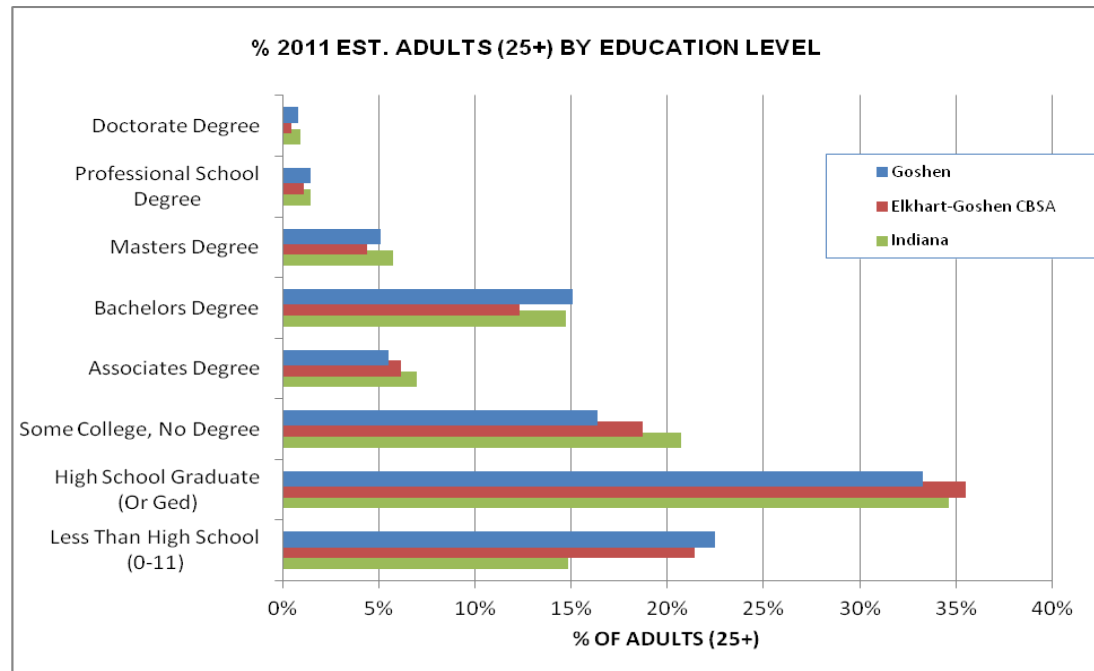
The age distribution of children is relatively consistent across all three geographic areas of study. The city of Goshen and the Elkhart-Goshen, IN CBSA does have a slightly higher percentage of children under the age of 4. Programming geared towards families and children while important should not be dominant as approximately less than 30% of the total population consists of children.



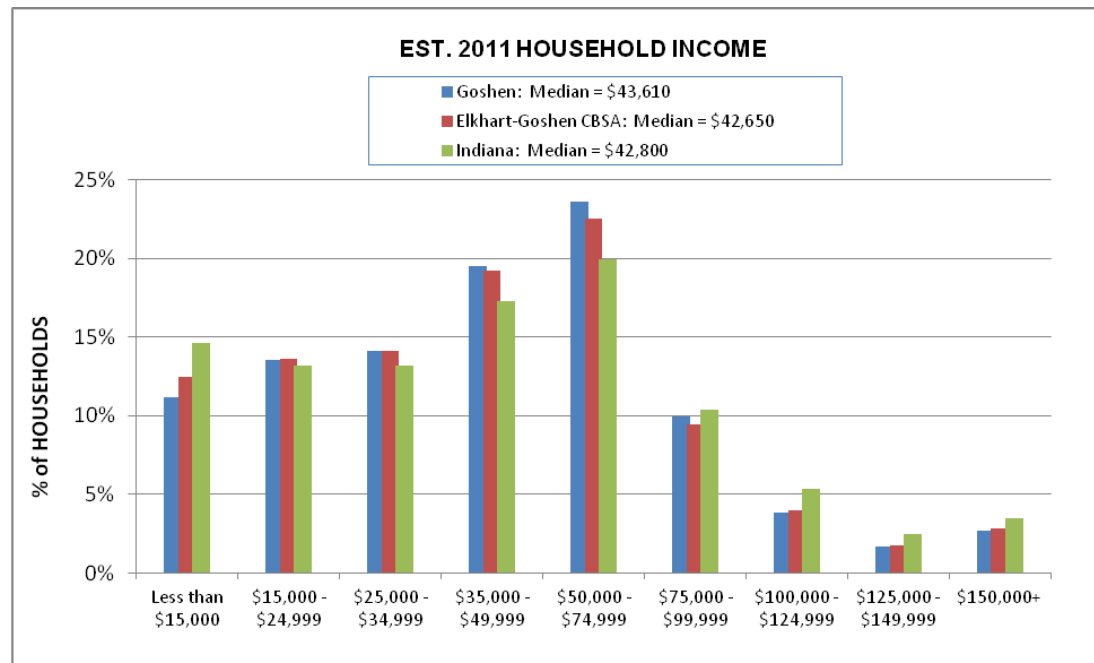
Again a fairly consistent age distribution for adults is observed across all three geographic areas of study. The population of the city of Goshen does have a slightly higher percentage 25-34 year olds which is indicative of the lower median age observed earlier. Likewise the age distribution for those aged 45 and older is fairly consistent with the city of Goshen having a slightly lower percentage of those aged 45 and older than the entire state of Indiana..



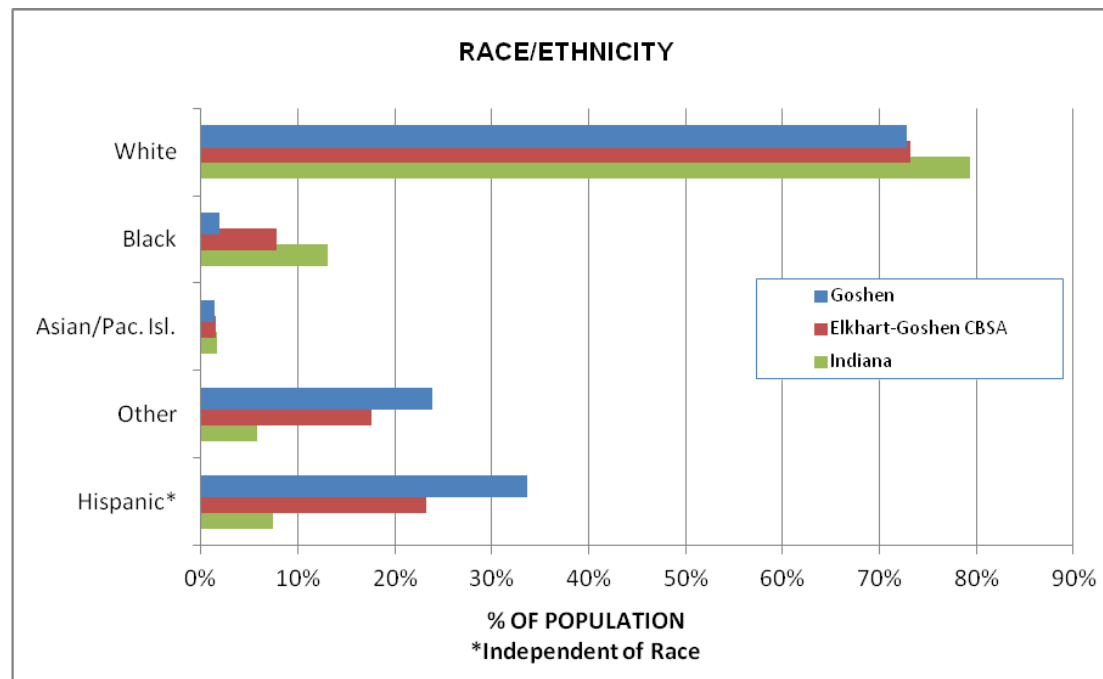
Educational achievement is an important predictor of participation in arts and cultural activities. The city of Goshen has a consistent level of the population with a college degree (22%) as the entire state of Indiana. Comparatively, the Elkhart-Goshen, IN CBSA is slightly less educated when compared to the city itself as well as the entire state of Indiana.



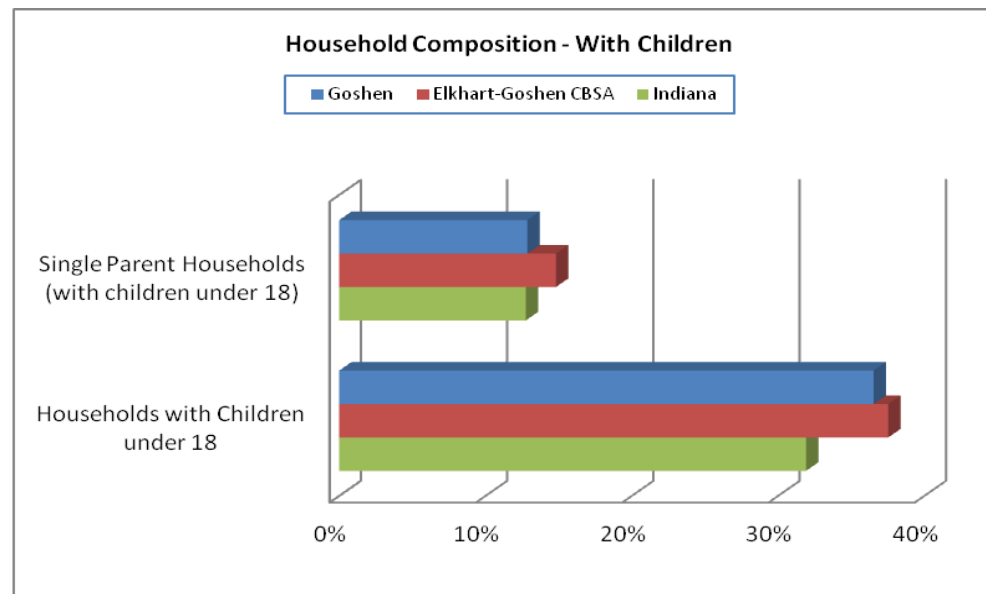
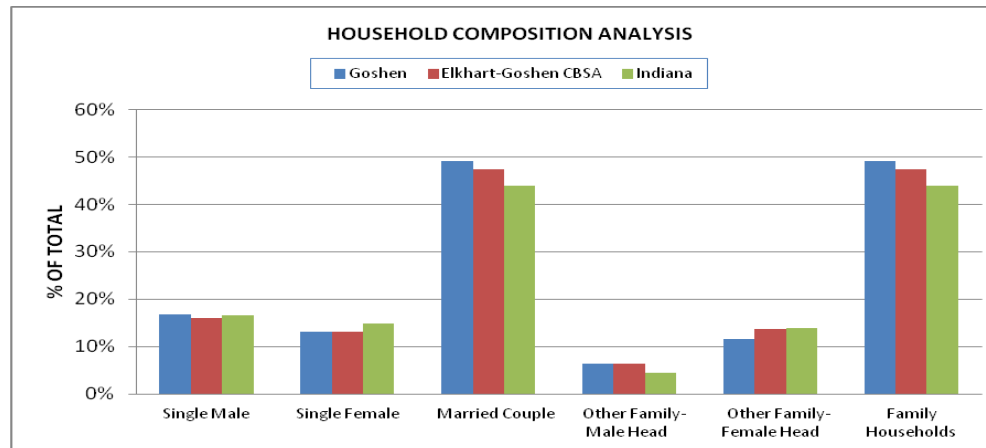
The city of Goshen has a slightly higher median income than the other two geographic areas of study at \$43,610.



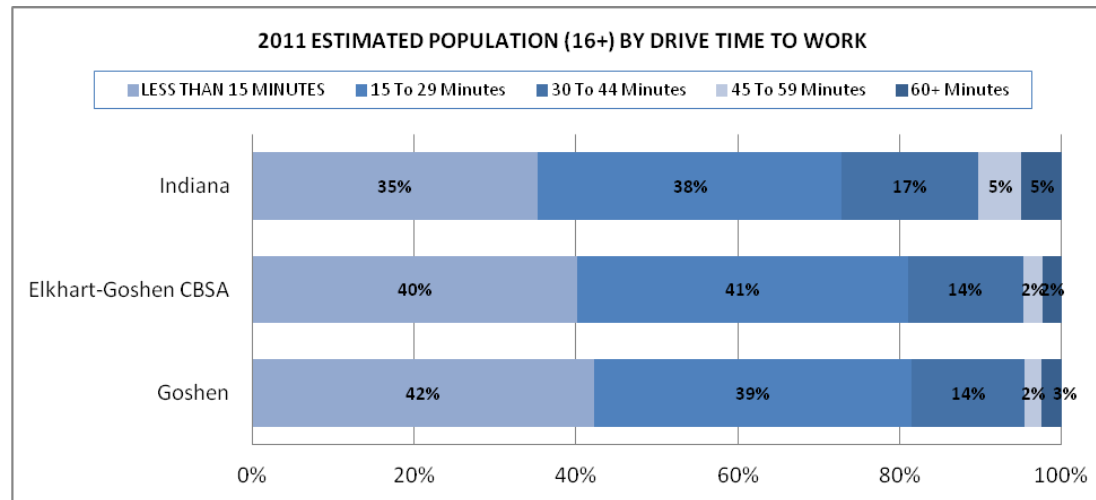
The city of Goshen's population has the highest percentage of Hispanic ethnicity, while the Elkhart-Goshen, IN CBSA and the state of Indiana having higher percentages comparatively of Black ethnicity. Having programs that speak to a variety of ethnicities will be important to serve both the immediate and CBSA markets.



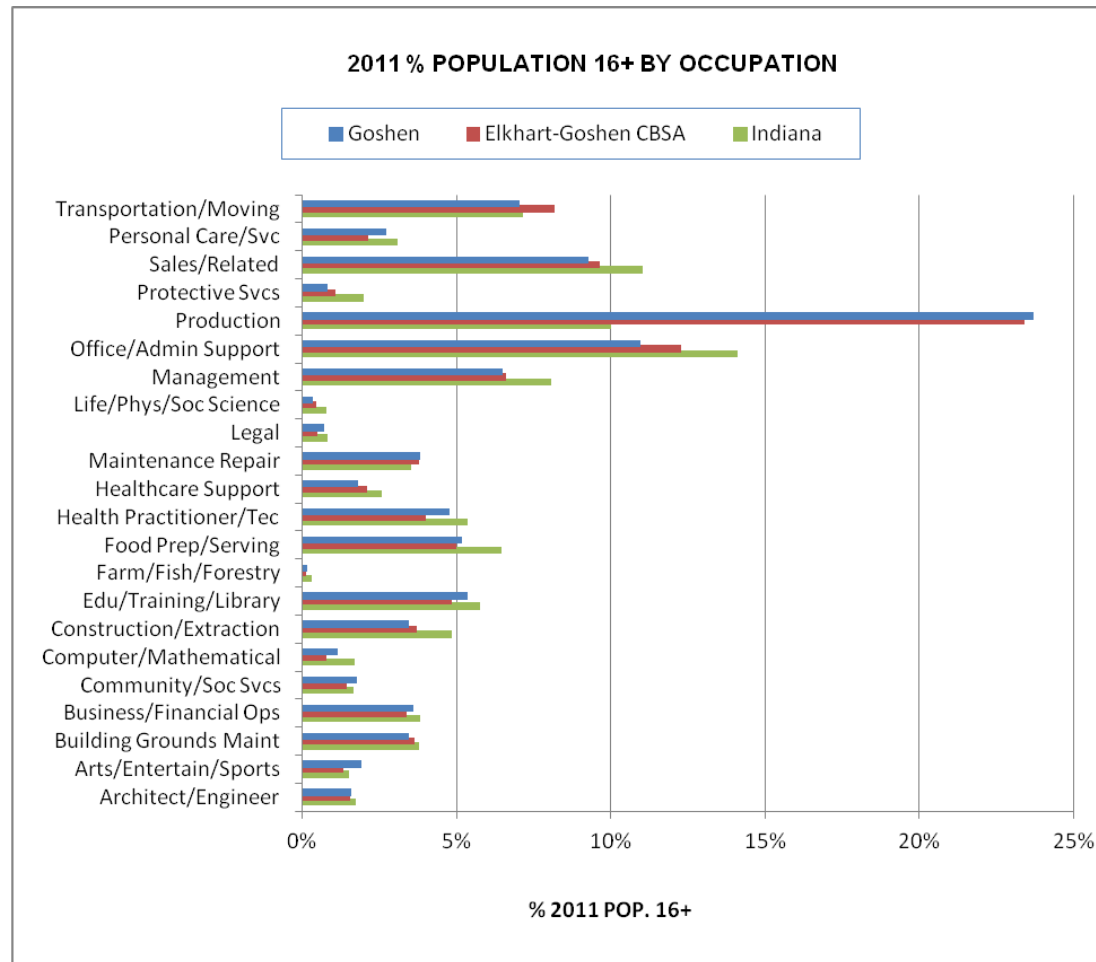
The city of Goshen is composed mostly of married couple households but both the 30-mile radius similar to the Elkhart-Goshen, IN CBSA and the state of Indiana.



The majority of those who work commute less than 30 minutes to work. A slightly larger proportion of state of Indiana has longer commute times.



Both the city of Goshen and the Elkhart-Goshen, IN CBSA have the largest percentage of their population in production followed by sales and office/administrative support; and within the state of Indiana a markedly lower percentage of the population is employed in a production profession.



Lifestyles

Beyond demographics, another useful approach to understanding a market is to look at its “lifestyles.” By identifying homogenous groups of households within a market area, it is possible to target potential households who might be interested in arts and cultural programming. These homogenous groups, or “segments,” are determined by aggregating households with similar demographic and lifestyle characteristics.

Prizm_{NE}TM, a market segmentation system developed by The Nielsen Corporation, is a geographically-based market analysis system that augments demographic data with consumer information. The analysis system classifies every household in the United States into unique market segments. Each market segment consists of households that are at similar stages in their life cycle and share common interests, purchasing patterns, financial behavior and demands for products and services, including cultural activities.

The classification system was created by combining information from the Equifax Consumer Marketing Database with US Census demographic data. Over 100 unique characteristics for more than 160 million individual consumers are used, including financial and consumer activity, demographic, socioeconomic, leisure activity and housing data.

PRIZM_{NE} groups are clusters of PRIZM_{NE} segments. Social Groups are arranged into fourteen categories based on urbanization and affluence (“SER” or socioeconomic rank). Lifestage groups are arranged into eleven categories based on age, presence of children and SER (socioeconomic rank). PRIZM_{NE} segments are the 66 unique lifestyle segments.

The top unique PRIZM_{NE} segments, as well as the related Social Groups and Lifestage Groups for the Elkhart-Goshen, IN CBSA are as follows:

Prizm _{NE} Market Segmentation				
Elkhart-Goshen, IN CBSA Top Ten Segments By Percent Composition				
Segment Title	# of Households	% Composition	Social Group	Lifestage Group
Family Thrifts	3,774	9.03%	Micro-City Blues	Sustaining Families
New Homesteaders	2,880	6.89%	Country Comfort	Mainstream Families
Sunset City Blues	2,158	5.16%	City Centers	Cautious Couples
Mobility Blues	2,152	5.15%	Micro-City Blues	Striving Singles
Suburban Pioneers	1,751	4.19%	Inner Suburbs	Mainstream Families
New Beginnings	1,590	3.80%	Inner Suburbs	Striving Singles
Kid Country, USA	1,565	3.74%	Middle America	Mainstream Families
City Startups	1,365	3.27%	Micro-City Blues	Striving Singles
Mayberry-ville	1,328	3.18%	Country Comfort	Midlife Success
Boomtown Singles	1,261	3.02%	City Centers	Young Achievers
Total % of Population		47.43%		

Almost 48% of the Elkhart-Goshen, IN CBSA falls into one of 10 PRIZMNE segments, descriptions of which can be found below:

Family Thrifts (9.03 %)

Lower-Mid Younger w/ Kids



The small-city cousins of inner-city districts, Family Thrifts contain young, ethnically diverse parents who have lots of children and work entry-level service jobs. In these apartment-filled neighborhoods, visitors find the streets jam-packed with babies and toddlers, tricycles and basketball hoops, Suzukis and Kias.

Social Group: Micro-City Blues

Lifestage Group: Sustaining Families

2010 Statistics:

US Households: 2,111,146 (1.82%)

Median HH Income: \$31,842

Demographics Traits:

Urbanicity:	Second City
Income:	Lower-Mid
Income Producing Assets:	Low
Age Ranges:	25-44
Presence of Kids:	HH w/ Kids
Homeownership:	Mix, Renters
Employment Levels:	WC, Service, Mix
Education Levels:	High School Grad
Ethnic Diversity:	White, Black, Hispanic, Mix

Lifestyle Traits

- Shop at Walgreens

- Buy large baby dolls
- Read Life & Style
- Watch Noticiero Univision
- Suzuki Cars

New Homesteaders (6.89%)

Upper-Mid Younger w/ Kids



Young, upper-middle-class families seeking to escape suburban sprawl find refuge in New Homesteaders, a collection of small rustic townships filled with new ranches and Cape Cods. With decent-paying jobs in white and blue-collar industries, these dual-income couples have fashioned comfortable, child-centered lifestyles; their driveways are filled with campers and powerboats, their family rooms with PlayStations and Game Boys.

Social Group: Country Comfort

Lifestage Group: Mainstream Families

2010 Statistics:

US Households: 2,059,595 (1.77%)

Median HH Income: \$59,158

Demographics Traits:

Urbanicity:	Town
Income:	Upper-Mid
Income Producing Assets:	Moderate
Age Ranges:	25-44
Presence of Kids:	HH w/ Kids
Homeownership:	Mostly Owners
Employment Levels:	BC, Service, Mix
Education Levels:	College Grad
Ethnic Diversity:	White, Black, Mix

Lifestyle Traits

- Shop at Best Buy
- Buy toys
- Read American Baby
- Watch Cartoon Network
- Chevrolet Uplander Flex Fuel

Sunset City Blues (5.16%)

Lower-Mid Older Mostly w/o Kids



Scattered throughout the older neighborhoods of small cities, Sunset City Blues is a segment of lower-middle-class singles and couples who have retired or are getting close to it. These empty-nesters tend to own their homes but have modest educations and incomes. They maintain a low-key lifestyle filled with newspapers and television by day, and family-style restaurants at night.

Social Group: City Centers

Lifestage Group: Cautious Couples

2010 Statistics:

US Households: 2,071,984 (1.78%)

Median HH Income: \$41,314

Demographics Traits:

Urbanicity:	Second City
Income:	Lower-Mid
Income Producing Assets:	Moderate
Age Ranges:	55+
Presence of Kids:	Mostly w/o Kids
Homeownership:	Homeowners
Employment Levels:	Mostly Retired
Education Levels:	High School Grad
Ethnic Diversity:	White, Black, Mix

Lifestyle Traits

- Order from QVC
- Collect coins
- Read Ladies' Home Journal
- Watch One Life to Live
- Kia Borrego

Mobility Blues (5.15%)

Downscale Younger w/o Kids



Mobility Blues is a segment of younger singles in working-class neighborhoods in America's satellite cities. Ethnically diverse, these transient Americans tend to have modest lifestyles due to their downscale jobs. Surveys show they excel in going to movies, playing basketball, and shooting pool.

Social Group: Micro-City Blues
Lifestage Group: Striving Singles

2010 Statistics:

US Households: 1,501,362 (1.29%)

Median HH Income: \$30,719

Demographics Traits:

Urbanicity:	Second City
Income:	Downscale
Income Producing Assets:	Low
Age Ranges:	<35
Presence of Kids:	HH w/o Kids
Homeownership:	Mix, Renters
Employment Levels:	WC, Service, Mix
Education Levels:	Some College
Ethnic Diversity:	White, Black, Hispanic, Mix

Lifestyle Traits

- Shop at Circuit City
- Go whitewater rafting
- Read WWE Magazine
- Watch Telemundo
- Hundai Tiburon

Suburban Pioneers (4.19%)

Downscale Middle Age Family Mix



Suburban Pioneers represents one of the nation's eclectic lifestyles, a mix of singles, recent divorcees, and single parents who have moved into older, inner-ring suburbs. They live in aging homes and garden-style apartment buildings, where the jobs are scarce and the money is tight. But what unites these residents--a diverse mix of whites, Asians, Hispanics, and African-Americans--is a working-class sensibility and an appreciation for their off-the-beaten-track neighborhoods.

Social Group: Inner Suburbs

Lifestage Group: Mainstream Families

2010 Statistics:

US Households: 1,219,638 (1.05%)

Median HH Income: \$35,221

Demographics Traits:

Urbanicity:	Suburban
Income:	Downscale
Income Producing Assets:	Below Avg.
Age Ranges:	<55
Presence of Kids:	Family Mix
Homeownership:	Homeowners
Employment Levels:	WC, Service, Mix

Education Levels: Some College
Ethnic Diversity: White, Black, Asian, Hispanic

Lifestyle Traits

- Shop at Lane Bryant
- Mail order toys
- Read OK! Magazine
- Watch Sabado Gigante
- Dodge Charger

New Beginnings (3.8%)

Low Income Middle Age Family Mix



Filled with young, single adults, New Beginnings is a magnet for adults in transition. Many of its residents are twentysomething singles and couples just starting out on their career paths--or starting over after recent divorces or company transfers. Ethnically diverse--with nearly half its residents Hispanic, Asian, or African-American--New Beginnings households tend to have the modest living standards typical of transient apartment dwellers.

Social Group: Inner Suburbs
Lifestage Group: Striving Singles

2010 Statistics:

US Households: 1,802,267 (1.55%)

Median HH Income: \$32,558

Demographics Traits:

Urbanicity: Suburban
Income: Low Income
Income Producing Assets: Low
Age Ranges: <55
Presence of Kids: Family Mix

Homeownership:	Renters
Employment Levels:	WC, Service, Mix
Education Levels:	Some College
Ethnic Diversity:	White, Black, Asian, Hispanic

Lifestyle Traits

- Shop at Express
- Read comic books
- Read Vibe
- Watch Maury
- Kia Spectra

Kid Country, USA (3.74%)

Lower-Mid Middle Age w/ Kids



Widely scattered throughout the nation's heartland, Kid Country, USA is a segment dominated by large families living in small towns. Predominantly white, with an above-average concentration of Hispanics, these young, working-class households include homeowners, renters, and military personnel living in base housing; about 16 percent of residents own mobile homes.

Social Group: Middle America

Lifestage Group: Mainstream Families

2010 Statistics:

US Households: 1,469,685 (1.27%)

Median HH Income: \$44,328

Demographics Traits:

Urbanicity:	Town
Income:	Lower-Mid
Income Producing Assets:	Low

Age Ranges:	<55
Presence of Kids:	HH w/ Kids
Homeownership:	Mix, Owners
Employment Levels:	WC, Service, Mix
Education Levels:	High School Grad
Ethnic Diversity:	White, Black, Hispanic, Mix

Lifestyle Traits

- Order from oldnavy.com
- Buy infant toys
- Read Fit Pregnancy
- Watch Nick at Nite
- Nissan Titan Flex Fuel

City Startups (3.27%)

Low Income Younger w/o Kids



In City Startups, young, multi-ethnic singles have settled in neighborhoods filled with cheap apartments and a commercial base of cafés, bars, laundromats, and clubs that cater to twentysomethings. One of the youngest segments in America--with ten times as many college students as the national average--these neighborhoods feature low incomes and high concentrations of African-Americans.

Social Group: Micro-City Blues

Lifestage Group: Striving Singles

2010 Statistics:

US Households: 1,488,786 (1.28%)

Median HH Income: \$25,010

Demographics Traits:

Urbanicity: Second City

Income:	Low Income
Income Producing Assets:	Low
Age Ranges:	<35
Presence of Kids:	HH w/o Kids
Homeownership:	Renters
Employment Levels:	White Collar, Mix
Education Levels:	Some College
Ethnic Diversity:	White, Black, Asian, Hispanic\

Lifestyle Traits

- Shop at The Limited
- Attend college football games
- Read Spin
- Watch Game Show Network
- Suzuki Forenza

Mayberry-ville (3.18%)

Upper-Mid Older w/o Kids



Like the old Andy Griffith Show set in a quaint picturesque berg, Mayberry-ville harks back to an old-fashioned way of life. In these small towns, upper-middle-class couples like to fish and hunt during the day, and stay home and watch TV at night. With lucrative blue-collar jobs and moderately priced housing, residents use their discretionary cash to purchase boats, campers, motorcycles, and pickup trucks.

Social Group: Country Comfort

Lifestage Group: Midlife Success

2010 Statistics:

US Households: 2,749,917 (2.37%)

Median HH Income: \$56,558

Demographics Traits:

Urbanicity:	Town/Rural
Income:	Upper-Mid
Income Producing Assets:	Above Avg.
Age Ranges:	45-64
Presence of Kids:	HH w/o Kids
Homeownership:	Mostly Owners
Employment Levels:	WC, Service, Mix
Education Levels:	High School Grad
Ethnic Diversity:	White

Lifestyle Traits

- Shop at Sherwin-Williams
- Go hunting with a gun
- Read Bassmaster
- Watch Daytona 500
- GMC Sierra Diesel

Boomtown Singles (3.02%)

Lower-Mid Middle Age w/o Kids



Affordable housing, abundant entry-level jobs, and a thriving singles scene--all have given rise to the Boomtown Singles segment in fast-growing satellite cities. Single, and working-class, these residents pursue active lifestyles amid sprawling apartment complexes, bars, convenience stores, and laundromats.

Social Group: City Centers

Lifestage Group: Young Achievers

2010 Statistics:

US Households: 1,610,499 (1.39%)

Median HH Income: \$41,971

Demographics Traits:

Urbanicity:	Second City
Income:	Lower-Mid
Income Producing Assets:	Below Avg.
Age Ranges:	<55
Presence of Kids:	HH w/o Kids
Homeownership:	Mix, Renters
Employment Levels:	WC, Service, Mix
Education Levels:	College Grad
Ethnic Diversity:	White, Black, Asian, Hispanic

Lifestyle Traits

- Shop at Victoria's Secret
- Do Karate
- Read Elle
- Watch VH1
- Suzuki SX4

PRIZM_{NE} Social Groups are based on urbanicity and affluence, two important variables used in the production of PRIZM_{NE}. First, segments are placed in one of four urbanicity categories (Urban, Second Cities, Suburbs, Town and Rural). Urbanicity is determined by the population density of an area and its neighboring areas. A population density score ranging from one (low density) to 99 (high density) is assigned to each area.

Finally, within each category, all the segments are sorted into groups based on affluence, another powerful demographic predictor of consumer behavior. All of the 66 segments are grouped into these 14 Social Groups.

The top Social Groups for the Elkhart-Goshen, IN CBSA are as follows:

Prizm _{NE} Market Segmentation		
Elkhart-Goshen, IN CBSA		
Social Group	# of Households	% Composition
Micro-City Blues	9,334	22.3%
City Centers	6,057	14.5%
Country Comfort	5,913	14.1%
Inner Suburbs	4,997	12.0%
Middleburbs	3,671	8.8%
Middle America	3,664	8.8%
Rustic Living	2,774	6.6%
The Affluentials	1,867	4.5%
Landed Gentry	1,813	4.3%
Second City Society	1,218	2.9%
Elite Suburbs	497	1.2%
Urban Uptown	0	0.0%
Midtown Mix	0	0.0%
Urban Cores	0	0.0%
Total % of Population		100.0%

Micro-City Blues

Micro-City Blues was created via the predominantly downscale residents living in the affordable housing found throughout the nation's smaller cities. A diverse social group, these five segments contain a mix of old and young, singles and widowers, whites, African-Americans, and Hispanics. Most of the workers hold blue-collar jobs--hence the name--and their marketplace behaviors reflect the segments' varied lifestyles. This is a social group of strong dualities, with consumers indexing high for video games and bingo, aerobic exercise and fishing, and BET and CMT.

2010 Statistics:

US Households: 7,813,314

Median HH Income: \$28,955

City Centers

The five segments in the C2 social group consist of a mix of Americans--old and young, homeowners and renters, families and singles--who've settled in the nation's satellite cities. What they share is a middle-class status, educations that include at least some college, and a lifestyle heavy on leisure and recreation. The members of City Centers tend to be big fans of home-centered activities: Internet surfing, video renting, TV viewing, and playing games and musical instruments. Outside their homes, they go to movies, museums, and bowling alleys at high rates.

2010 Statistics:

US Households: 8,991,346

Median HH Income: \$48,715

Country Comfort

The five segments in Country Comfort are filled with predominantly white, upper-middle-class homeowners. In their placid towns and scenic bedroom communities, these Americans tend to be married, mostly between the ages of 25 and 54, with or without children. They enjoy comfortable upscale lifestyles, exhibiting high indices for barbecuing, bar-hopping, and playing golf as well as home-based activities such as gardening, woodworking, and crafts. Reflecting their rural, family environment, they prefer trucks, SUVs, and minivans to cars.

2010 Statistics:

US Households: 11,774,829

Median HH Income: \$58,867

Inner Suburbs

The four segments in the Inner Suburbs social group are concentrated in the inner-ring suburbs of major metros--areas where residents tend to be high school educated, unmarried, and downscale. There's diversity in this group, with segments that are racially mixed, divided evenly between homeowners and renters, and filled with households that are either young or aging in place. However, the consumer behavior of the S4 segments is dominated by older Americans who enjoy social activities at veterans clubs and fraternal orders, TV news and talk shows, and shopping at discount department stores.

2010 Statistics:

US Households: 5,357,150

Median HH Income: \$34,040

PRIZM_{NE} Lifestage Groups are based on the age of each segment's residents and the presence of children, two powerful predictors of consumer behavior. There are three classes which include: Younger Years, Family Life and Mature Years. Within each class, all the segments are sorted into groups based on affluence, another powerful demographic predictor of consumer behavior. What the three Lifestage Groups that comprise "Younger Years" share is that all of these households are, for the most part, young and childless.

The top Lifestage Groups for the Elkhart-Goshen, IN CBSA are as follows:

Prizm _{NE} Market Segmentation		
Elkhart-Goshen, IN CBSA		
Lifestage Group	# of Households	% Composition
Mainstream Families	9,513	22.8%
Striving Singles	7,080	16.9%
Cautious Couples	5,540	13.3%
Sustaining Families	4,129	9.9%
Sustaining Seniors	3,353	8.0%
Midlife Success	3,170	7.6%
Conservative Classics	2,640	6.3%
Young Accumulators	2,583	6.2%
Young Achievers	2,538	6.1%
Affluent Empty Nests	1,036	2.5%
Accumulated Wealth	223	0.5%
Total % of Population		100.0%

Mainstream Families

Mainstream Families refers to a collection of seven segments of middle-class and working-class child-filled households. While the age range of adults is broad--from 25 to 54--these are households with at least one child under 18 still at home. And residents in this exurban group share similar consumption patterns, living in modestly priced homes--including mobile homes--and ranking high for owning three or more cars. As consumers, Mainstream Families maintain lifestyles befitting large families in the nation's small towns: lots of sports, electronic toys, groceries in bulk, and televised media.

2010 Statistics:

US Households: 13,660,001

Median HH Income: \$48,719

Striving Singles

The seven segments in Striving Singles make up the most downscale of the Younger Years class. Centered in exurban towns and satellite cities, these twenty-something singles typically have low incomes--often under \$30,000 a year--from service jobs or part-time work they take on while going to college. Housing for this group consists of a mix of cheap apartment complexes, dormitories, and mobile homes. As consumers, the residents in these segments score high for outdoor sports, movies and music, fast food, and inexpensive cars.

2010 Statistics:

US Households: 12,465,431

Median HH Income: \$34,647

Cautious Couples

Another large group of Mature Years segments is Cautious Couples, featuring an over-55-year-old mix of singles, couples, and widows. Widely scattered throughout the nation, the residents in these seven segments typically are working-class and white, with some college education and a high rate of homeownership. Given their blue-collar roots, Cautious Couples today pursue sedate lifestyles. They have high rates for reading, travel, eating out at family restaurants, and pursuing home-based hobbies like coin collecting and gardening.

2010 Statistics:

US Households: 12,179,381

Median HH Income: \$43,334

PRIZM_{NE} profiles can be compared to the PRIZM_{NE} profiles of consumers of other products and services to develop lifestyle attributes. These profiles index against the profiles of consumers of other products and services in the following categories:

Automotive Products	Radio Media Usage
Cable & Network TV Media Usage	Retailers/Shopping
Electronics	Sports/Leisure
Finance/Insurance/Investments	Television Viewership
Magazines/Newspapers	Travel
Print Media Usage	Psychographics (personal interests)

Finally, the following are the top indexed lifestyle attributes by indices as it relates to arts and cultural interest and activities:

Elkhart-Goshen, IN CBSA Lifestyle Attributes	
Market Potential Indices (MPIs)	
(National Average = 100)	
Lifestyle Attribute	INDEX
Buy Rap/Hip Hop Music, 1yr (A)	118
Internet Prime Source of Family's Entertainment, Agr	106
Buy Contemporary Pop Music, 1yr (A)	105
Internet Prime Source of My Entertainment, Agr (A)	105
Buy Latin Music, 1yr (A)	101
Buy Religious/Gospel Music, 1yr (A)	100
Play Musical Instrument, 1yr (A)	100
Do Painting/Drawing/Sculpting, 1yr (A)	99
Buy Country Music, 1yr (A)	98
Music Is an Important Part of My Life, Agr (A)	98
Listen to Music, 1yr (A)	97
Consider Myself a Creative Person, Agr (A)	97
Make Charitable Contribution, 1yr (A)	91
Take Education Course, 1yr (A)	91
Interested in The Arts, Agr (A)	90
Go to Music/Dance Performance, 1yr (A)	90
Go to Rock/Pop Concert, 1yr (A)	87
Buy 60/70's Pop/Rock, 1yr (A)	87
Buy Jazz Music, 1yr (A)	85
Go to Museum, 1yr (A)	85
Buy Classical Music, 1yr (A)	84
Go to Live Theater, 1yr (A)	81



Goshen Theater Feasibility Study

Appendix 2: Community Survey Report

Methodology

▶ Survey Purpose

- Developed to gather behavioral and spending data related to participation in/attendance at arts and cultural events and activities.
- Gathered information on programming preferences, satisfaction with the current state of the Goshen Theater, and demographic data.
- Tested opinions regarding the potential renovation of the Goshen Theater.

Methodology

▶ Online Surveys

- A master survey link was created and accessible by the City of Goshen website. The survey was advertised by the City of Goshen Parks and Recreation department, the Goshen Theater and other arts and cultural organizations.

▶ Survey Population

- There were 408 survey respondents; 392 of whom qualified to take the complete survey by indicating that they were “somewhat” to “extremely” interested in arts and cultural activities.

Key Observations

- ▶ Satisfaction with the current state of the Goshen Theater varied
 - More than one-third (40.9%) were satisfied
 - The other respondents were either not satisfied (29.8%) or neutral (29.3%)
- ▶ There is support for the renovation of the Goshen Theater
 - Almost all respondents (97.7%) favor a renovation of the Goshen Theater
- ▶ A consistent mix of performances, films and other activities should be maintained in a renovated Goshen Theater
 - First Friday events (76.9%) are the most widely attended events at the Goshen Theater, with popular music (57.1%), dramatic performances (49.5%) and films (48.4%) the next most attended respectively
 - 90.1% of respondents envision First Friday events continuing to take place in a renovated Goshen Theater; 85.6% envision dramatic performances; 81.7% envision films
 - Ticket pricing should be affordable at \$20 or less

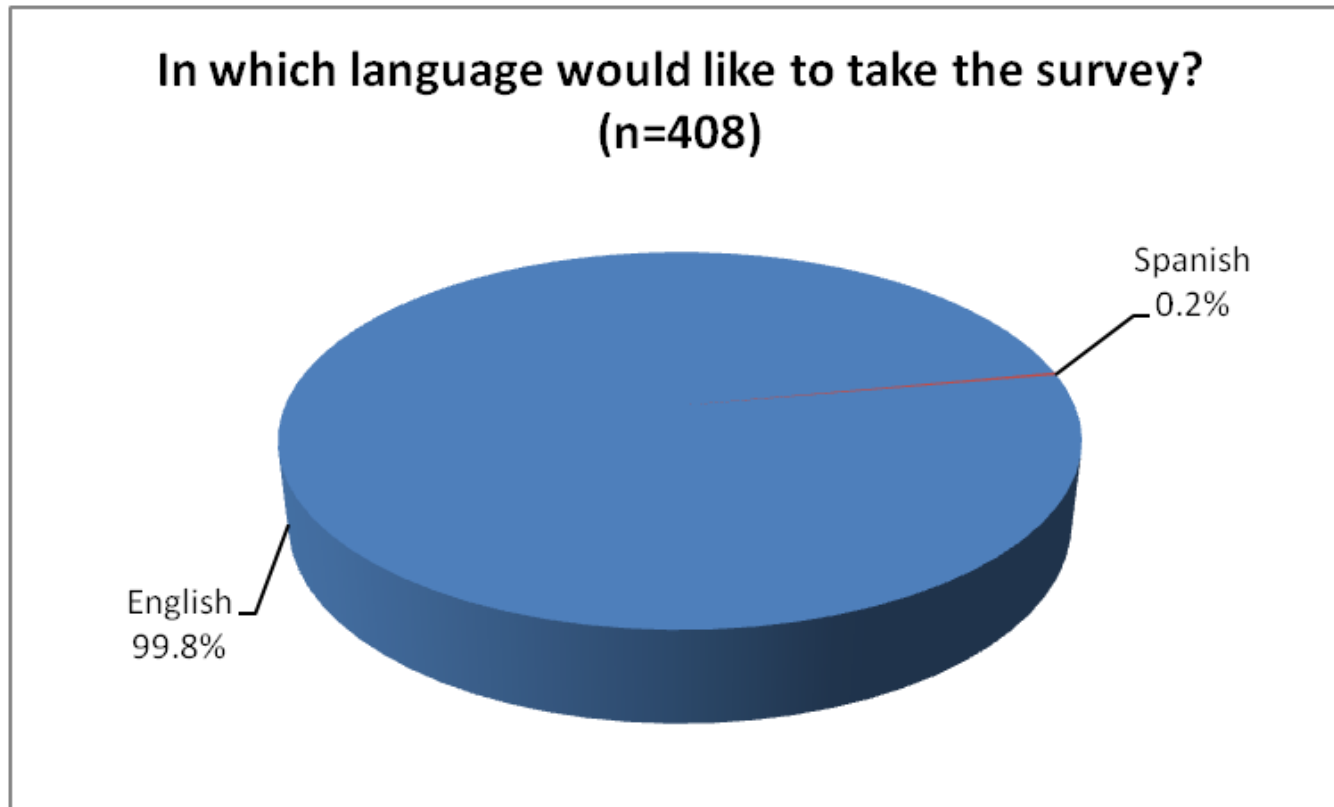


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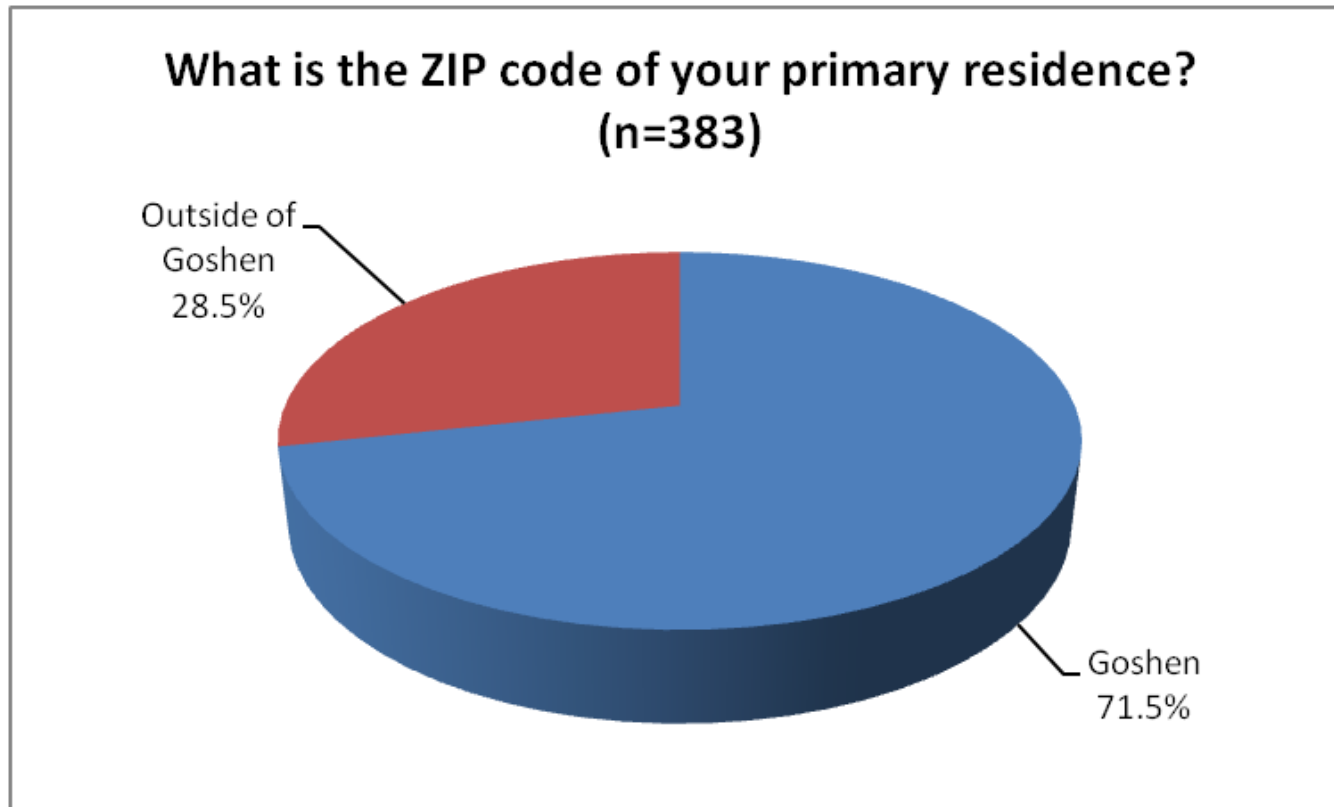
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Arts and Cultural Participation

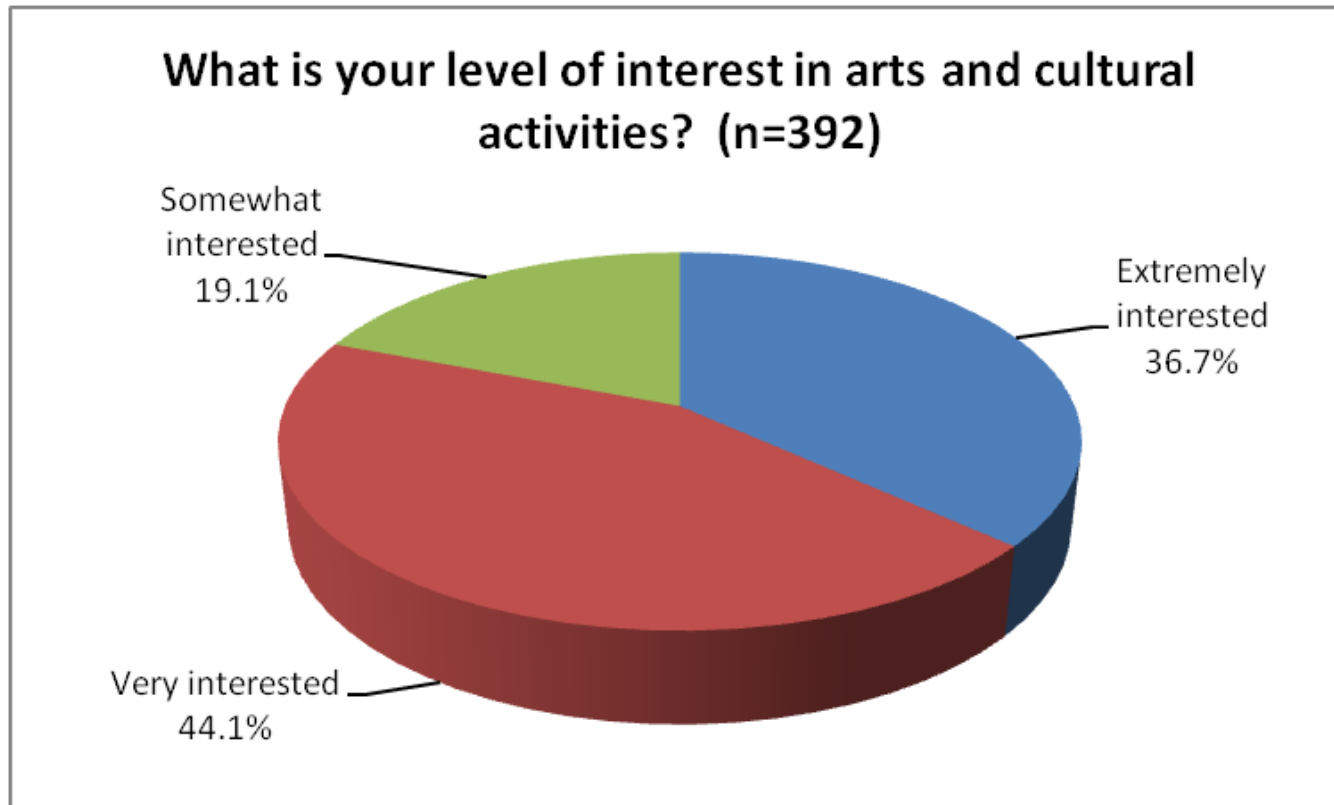
Most respondents chose to take the survey in English



A majority of respondents were Goshen residents;
however a portion of respondents were not

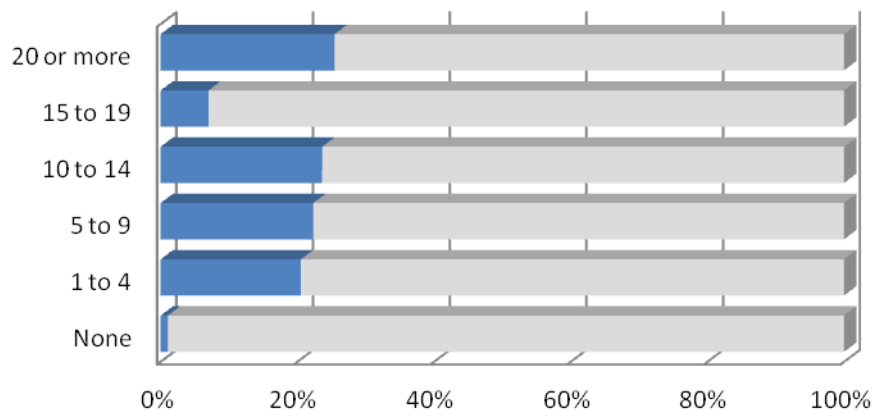


Respondents were screened based upon their interest in arts and cultural activities; only those who were at least “somewhat interested” were guided to complete the survey

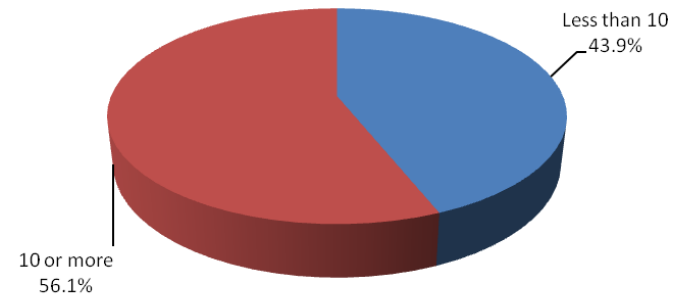


A majority of respondents attend arts and cultural activities more frequently than ten times per year

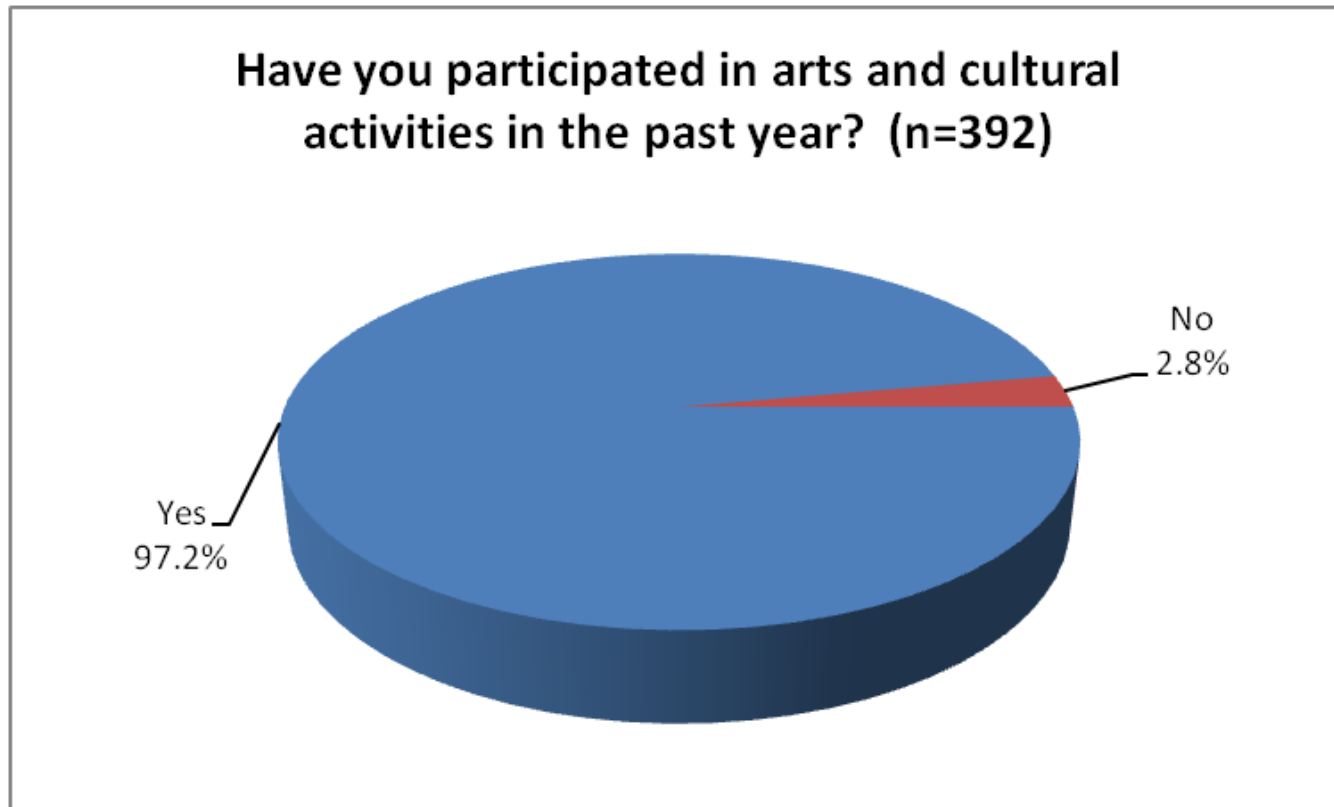
In a typical year, how many arts and cultural activities do you attend? (n=385)



In a typical year, how many arts and cultural activities do you attend? (n=385)

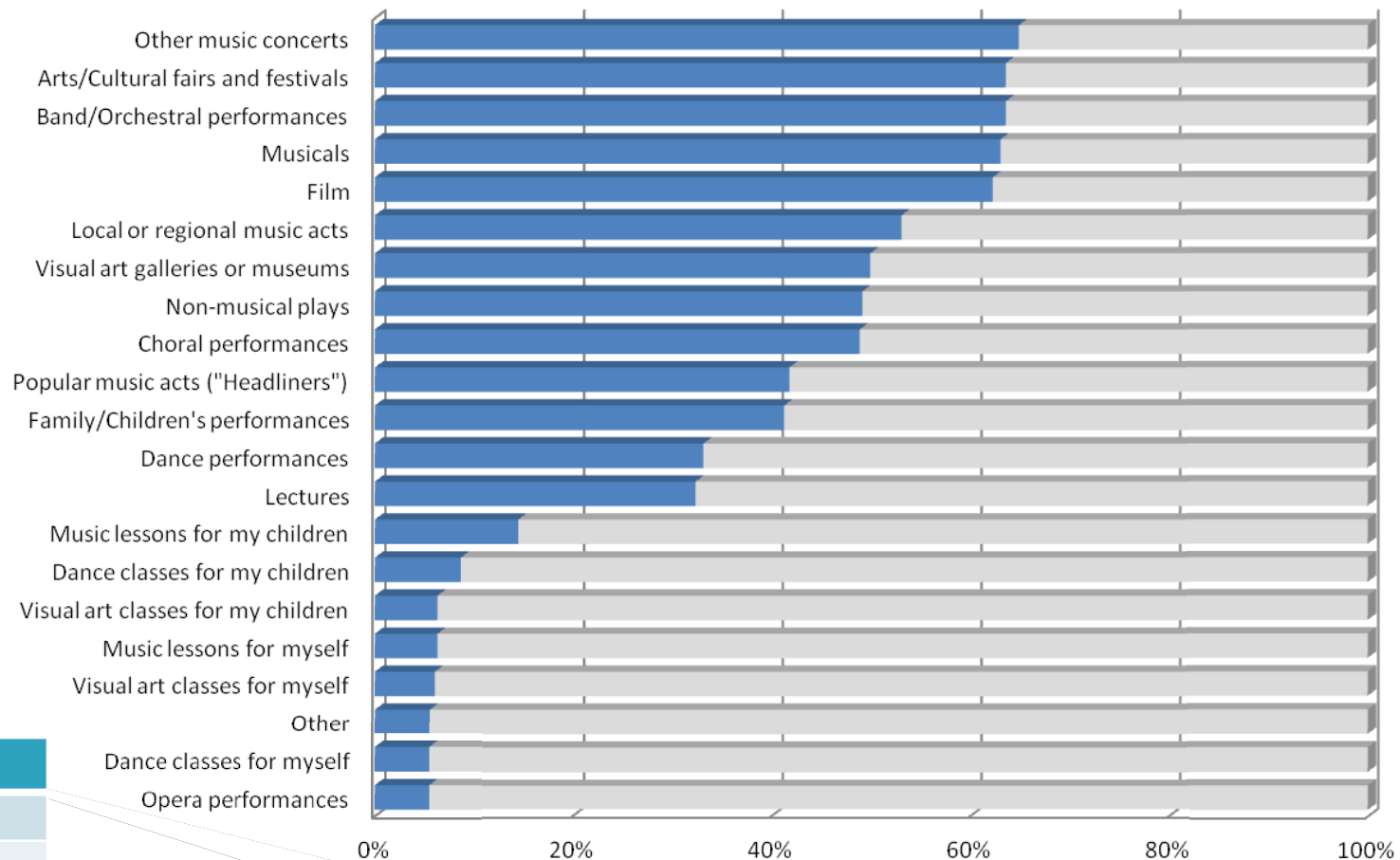


Most respondents were “active” participants, that is to say they have attended arts and cultural activities within the past year



Music performances, arts and cultural fairs/festivals, dramatic works and film were the most participated in/attended arts and cultural activities

Which of the following arts and cultural activities have you participated in/attended in the past year? (n=381)

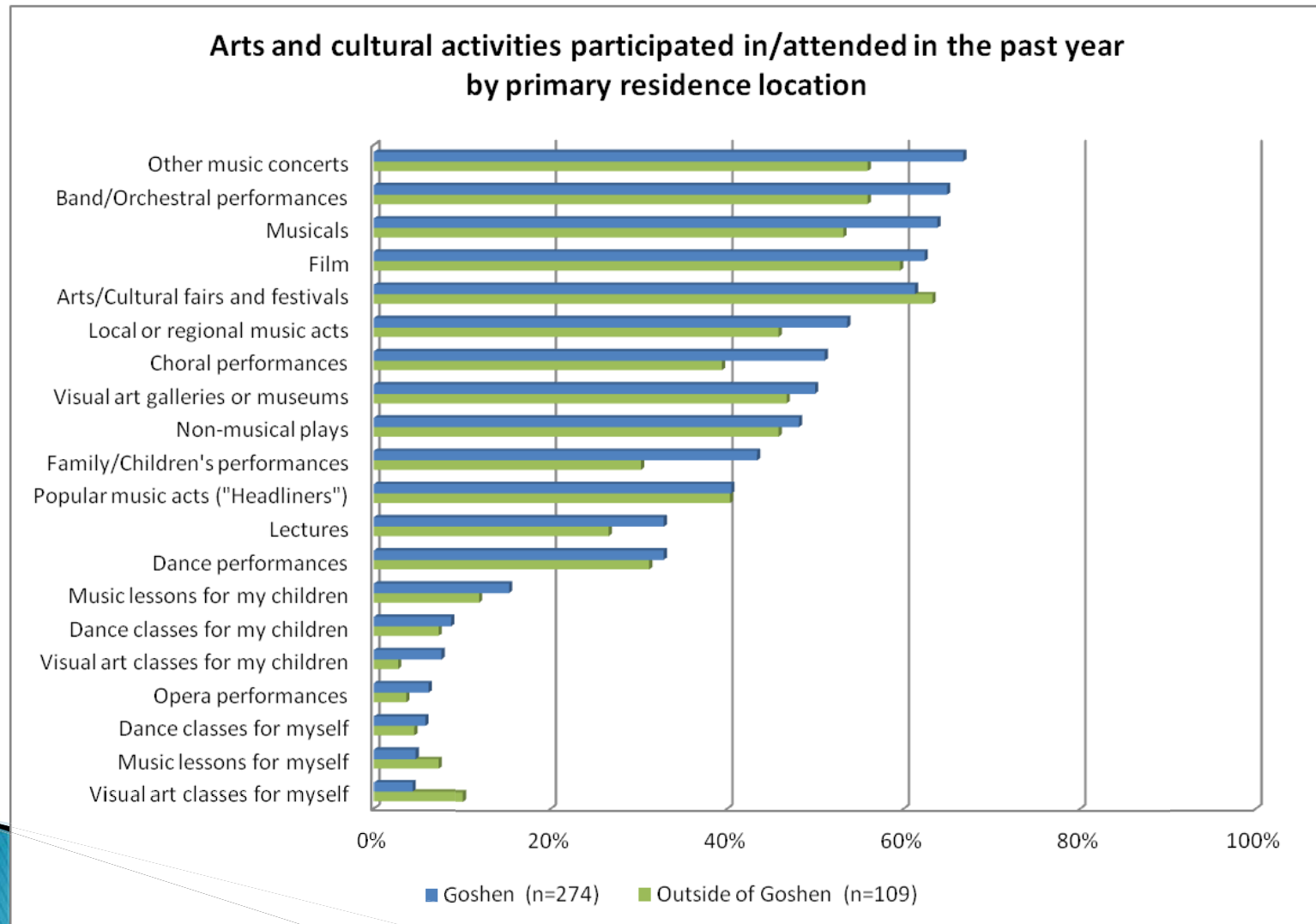


Other

Poetry

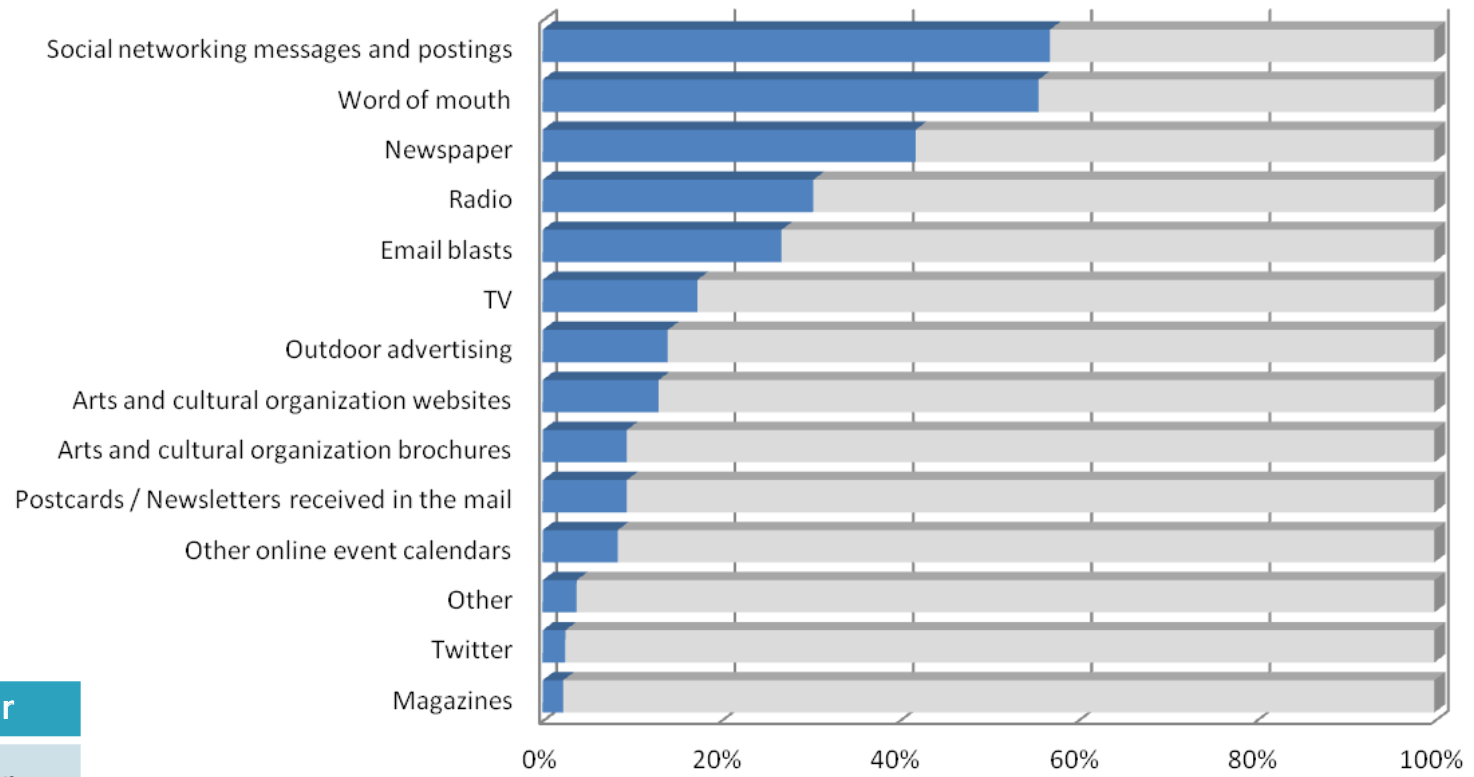
Improv

Residents of Goshen attended musicals and films more so than non-residents in the past year



Personal recommendations via social networking sites and word of mouth are important ways to hear about arts and cultural activities

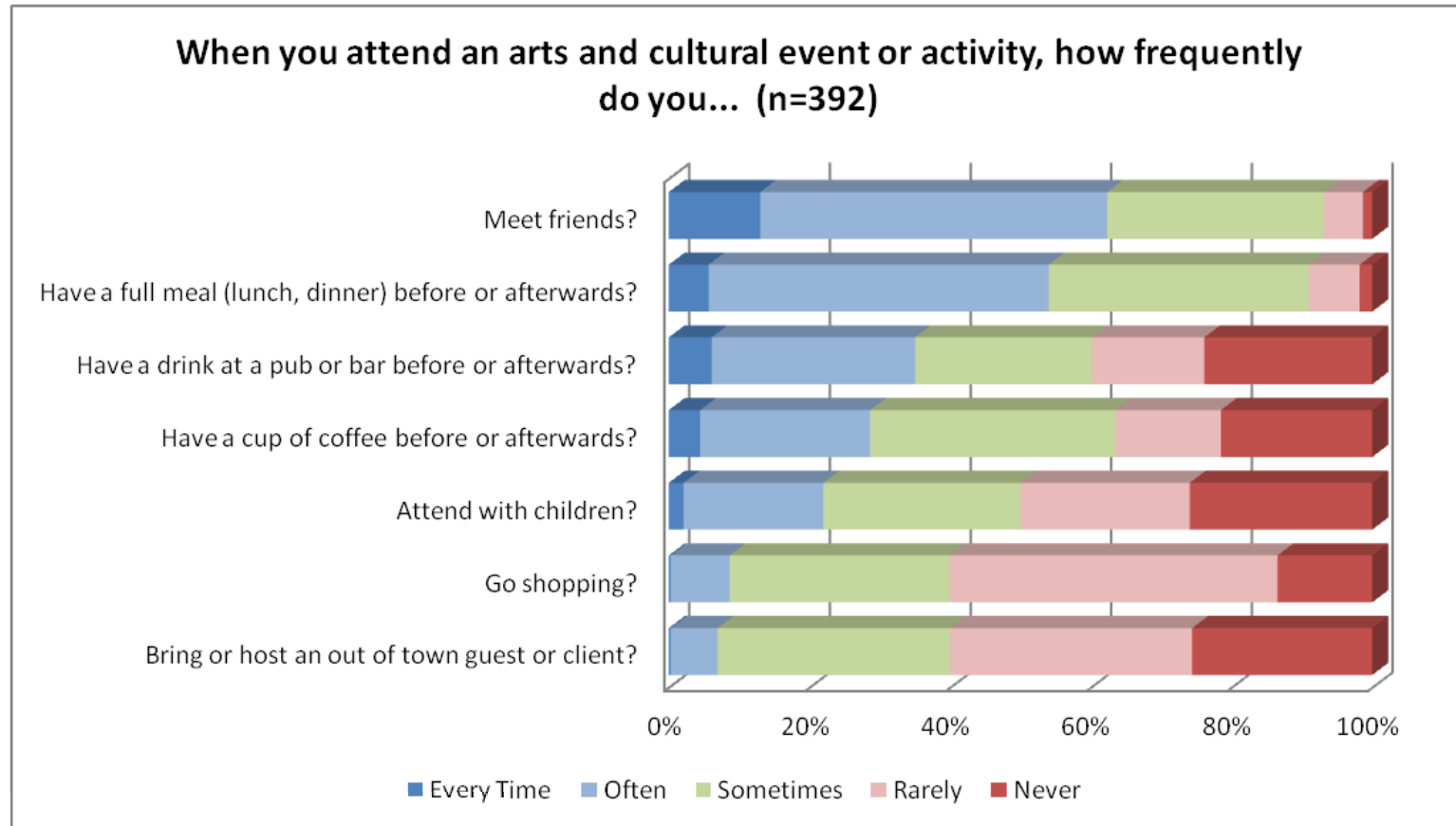
Which of the following are the top three ways that you hear about arts and cultural events? (n=392)



Other

Goshen
College

Respondents frequently meet other people when attending arts and cultural events/activities as well as have a full meal before or after



Popular music acts followed by operas and musicals garner the highest average ticket prices

Of the arts and cultural activities/venues that you have participated in/attended in the past year, what was the average admission price you paid per person? (n=350)

Genre	Mean	Median	Maximum
Band/Orchestral performances	\$24.30	\$7.00	\$95.00
Choral performances	\$6.81	\$5.00	\$40.00
Opera performances	\$33.44	\$20.00	\$150.00
Dance performances	\$10.90	\$9.00	\$65.00
Musicals	\$25.56	\$15.00	\$100.00
Non-musical plays	\$14.52	\$10.00	\$70.00
Other music concerts	\$16.83	\$15.00	\$200.00
Popular music acts ("Headliners")	\$74.14	\$30.00	\$150.00
Local or regional music acts	\$9.52	\$10.00	\$40.00
Family/Children's performances	\$4.52	\$3.00	\$30.00

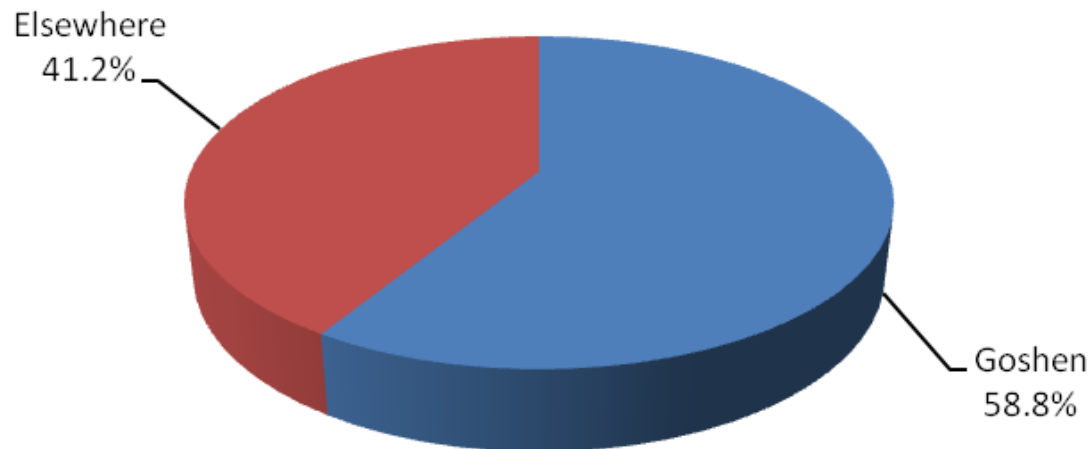
Respondents also spend more on classes and lessons, especially for adults

Of the arts and cultural activities/venues that you have participated in/attended in the past year, what was the average admission price you paid per person? (n=350)

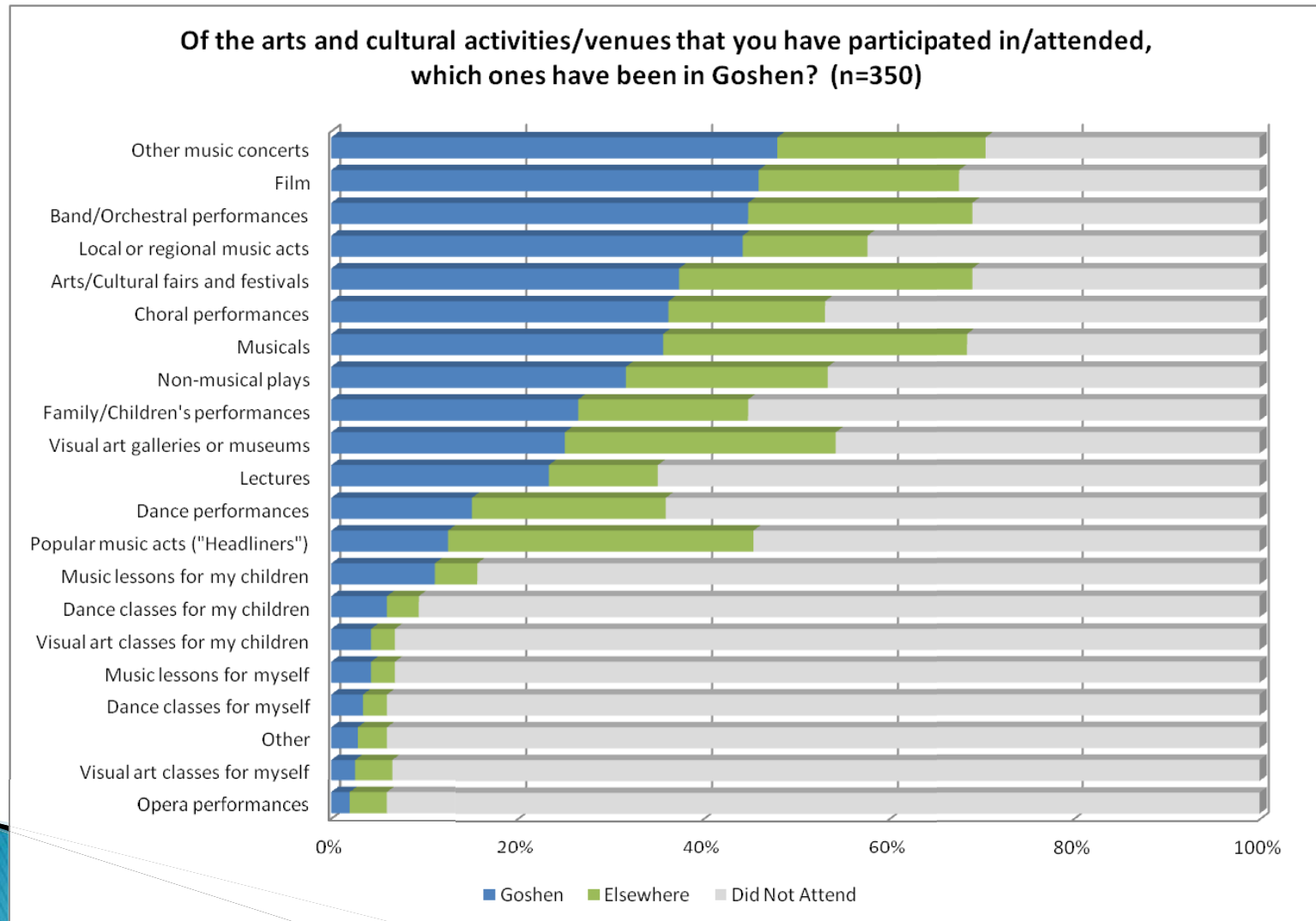
Genre	Mean	Median	Maximum
Arts/Cultural fairs and festivals	\$5.51	\$3.00	\$210.00
Dance classes for my children	\$29.43	\$12.00	\$120.00
Dance classes for myself	\$27.43	\$10.00	\$150.00
Music lessons for my children	\$15.66	\$15.00	\$50.00
Music lessons for myself	\$23.78	\$15.00	\$150.00
Visual art galleries or museums	\$10.47	\$8.00	\$151.00
Visual art classes for my children	\$17.47	\$10.00	\$60.00
Visual art classes for myself	\$88.82	\$25.00	\$1,000.00
Film	\$11.04	\$8.00	\$50.00
Lectures	\$3.56	\$0.00	\$40.00

Just over half of the respondents who participated in an arts and cultural activity in the past year, did so in Goshen

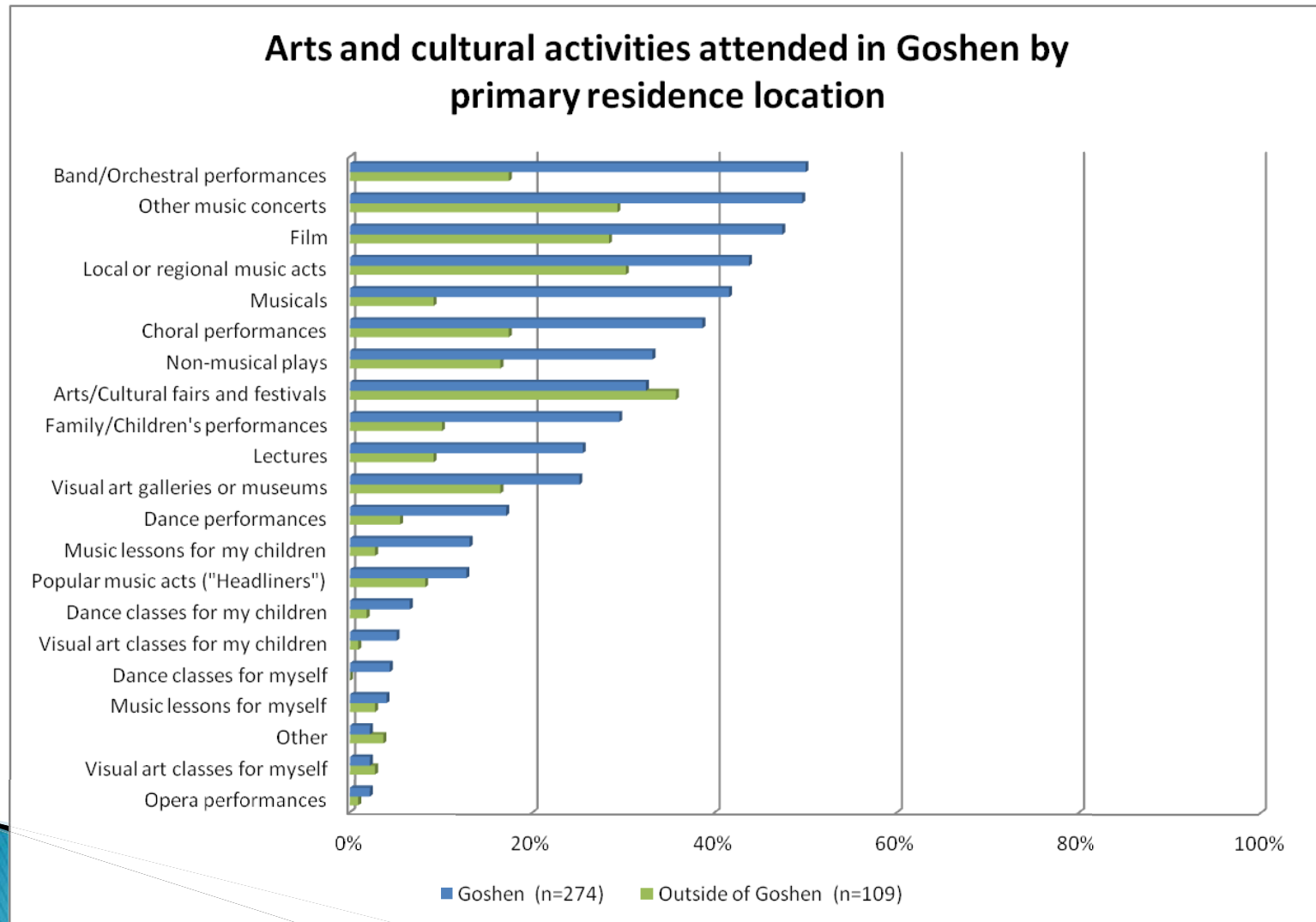
Of the arts and cultural activities/venues that you have participated in/attended, which ones have been in Goshen? (n=350)



Most respondents attended music performances, film and arts and cultural fairs/festivals in Goshen



For those who reside outside of Goshen, arts and cultural fairs/festivals are the most attended activities in Goshen



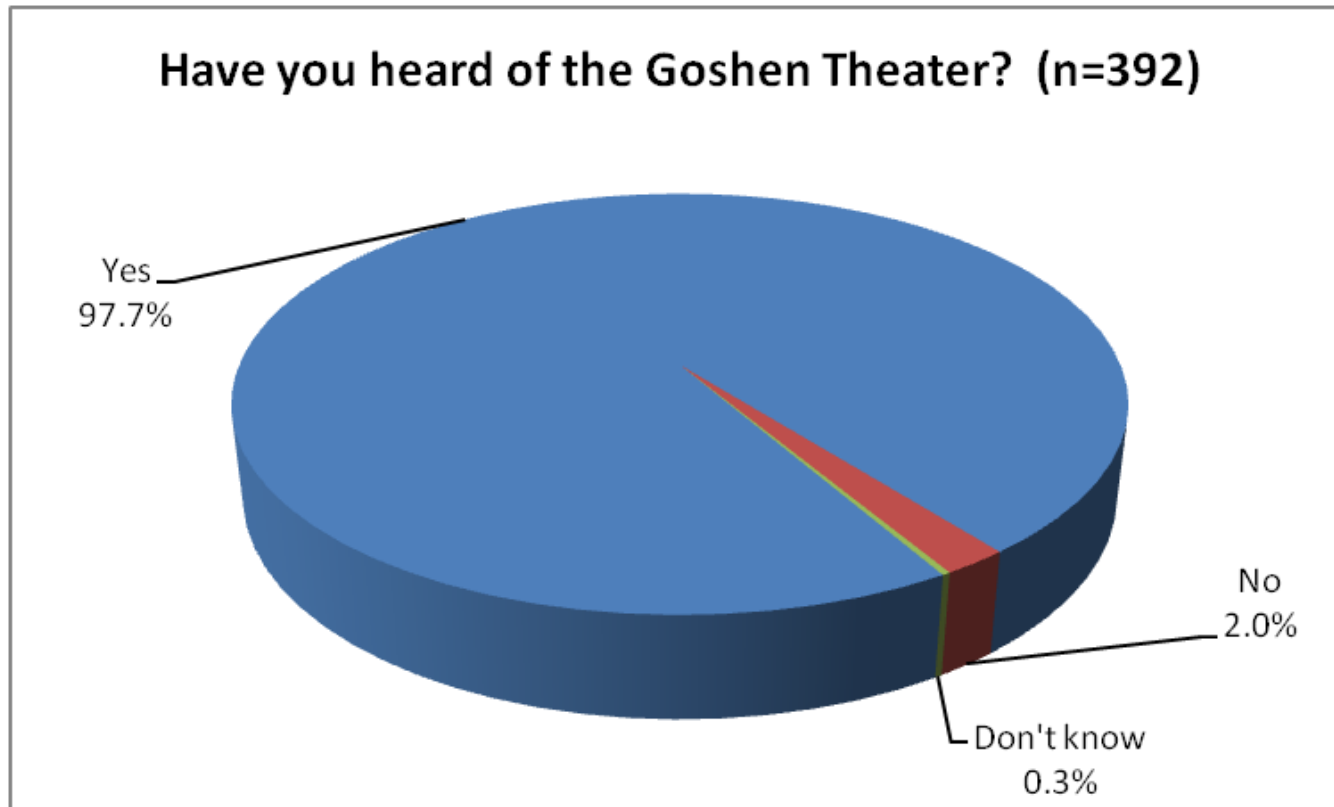


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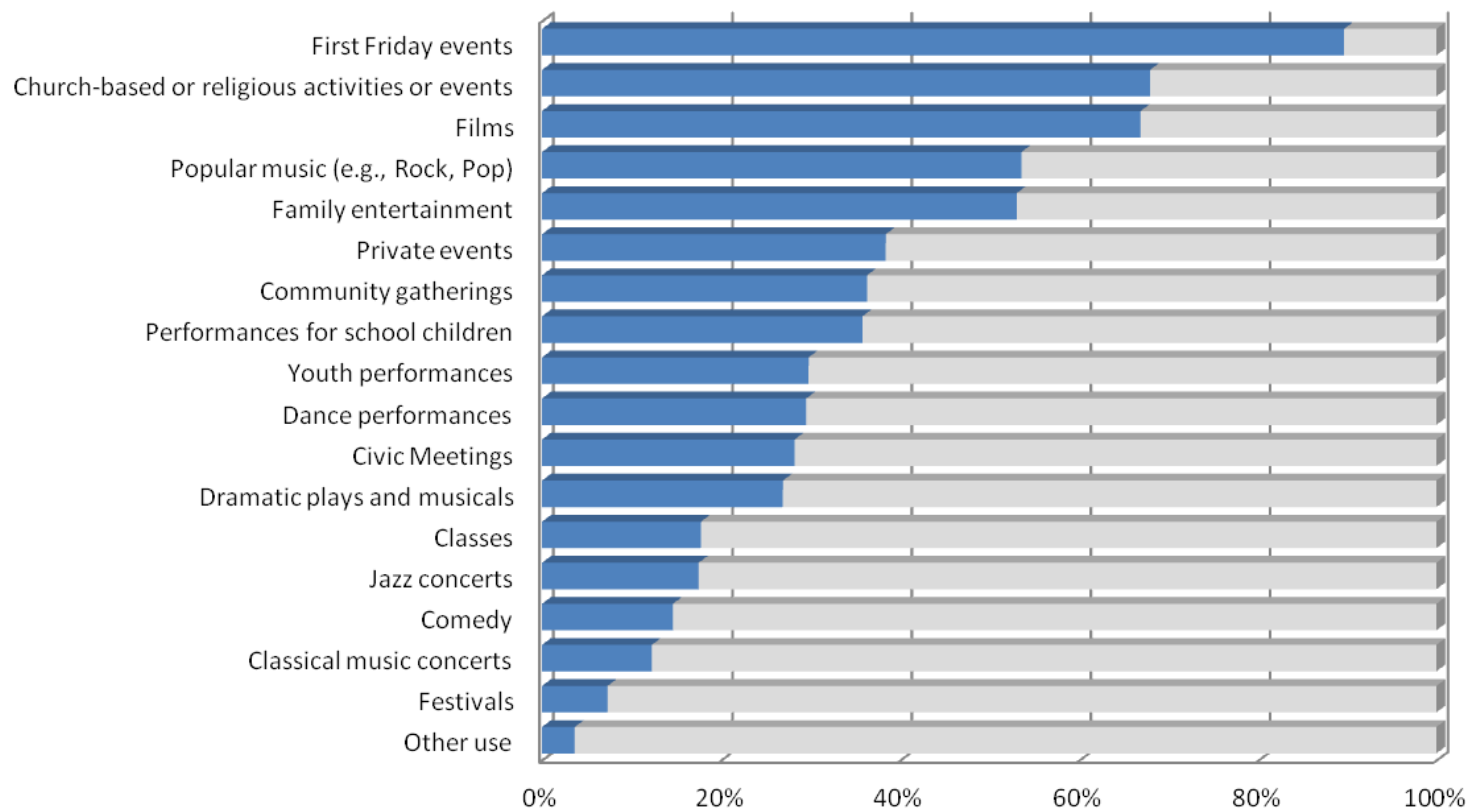
Goshen Theater

Almost all the respondents have heard of the Goshen Theater

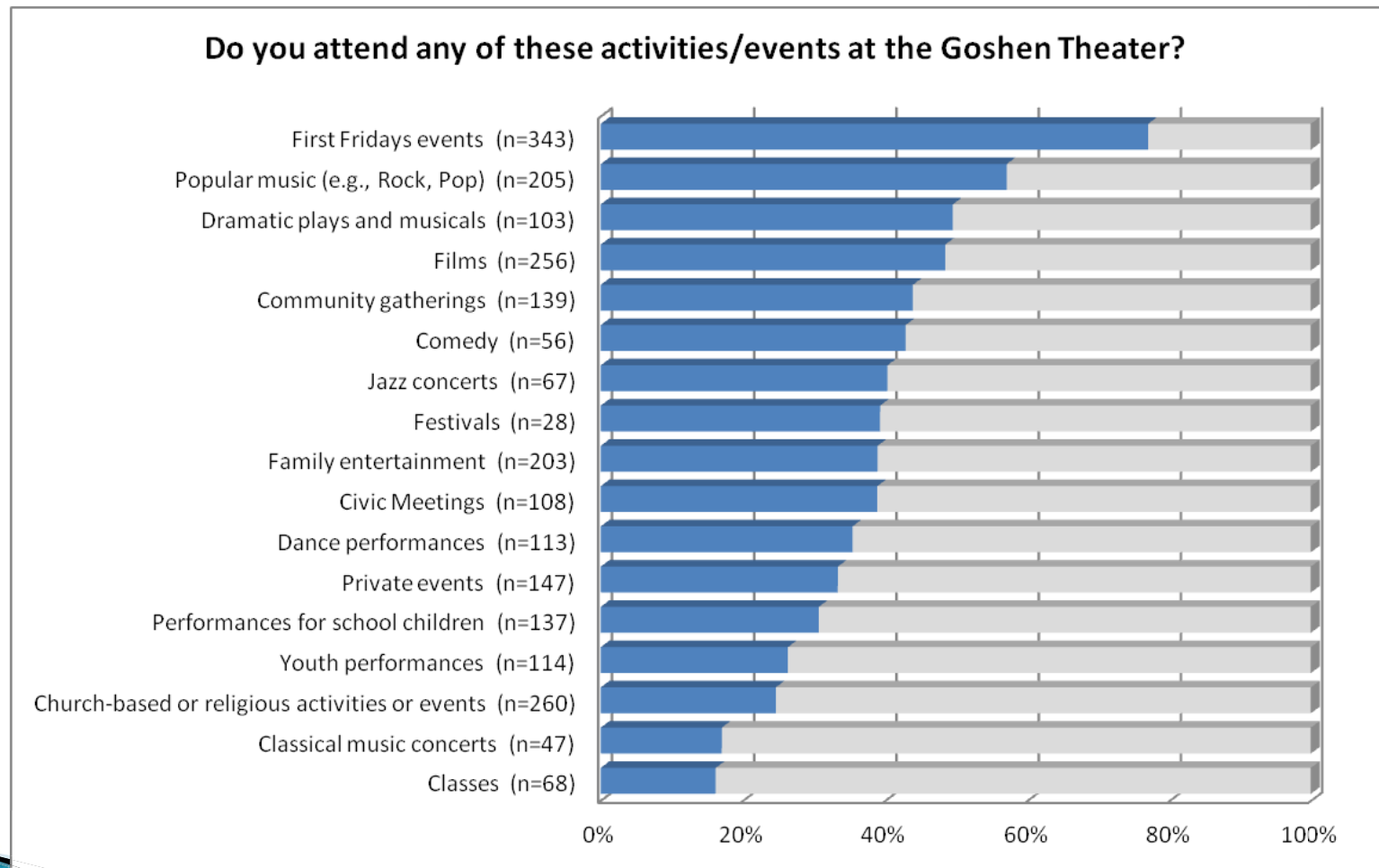


First Friday events, religious activities, films, popular music and family entertainment are the most widely associated genres with the Goshen Theater

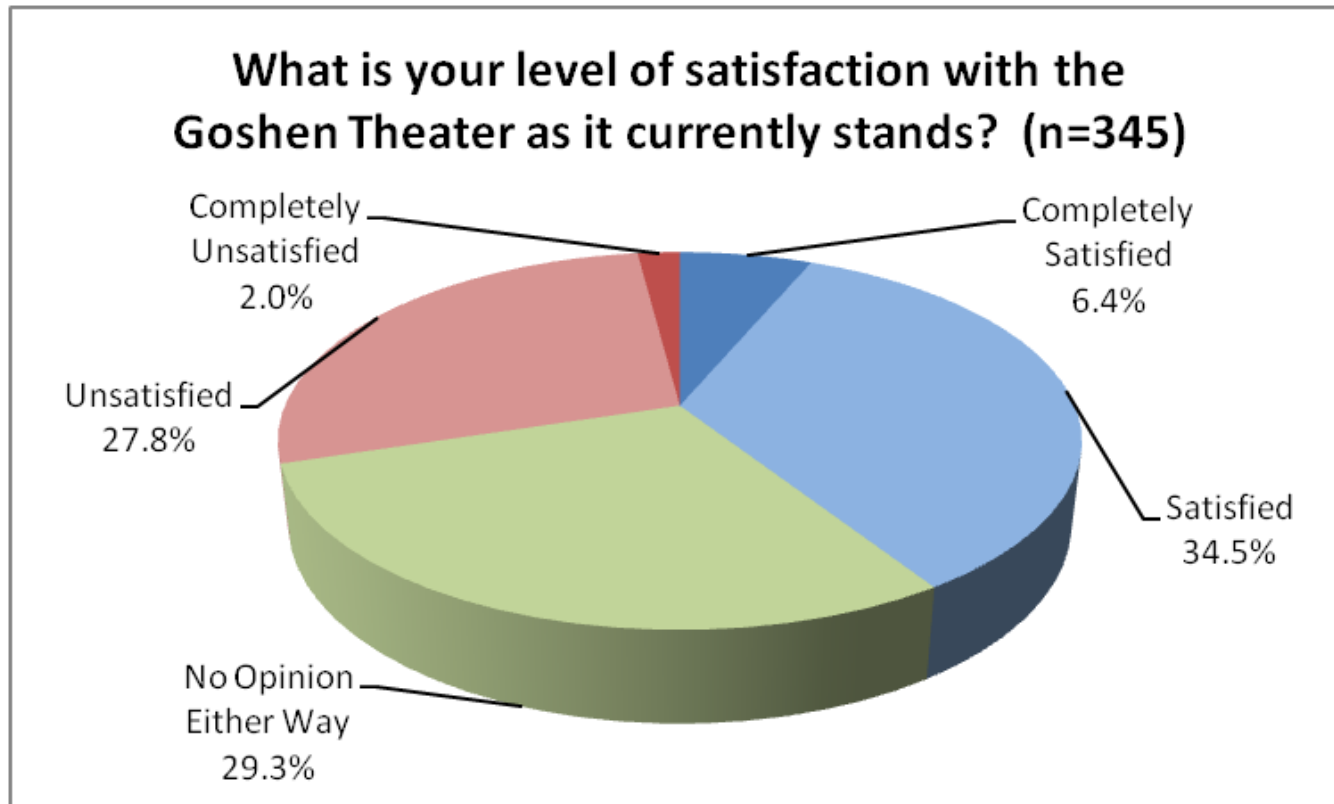
Which of the following activities/events do you understand to be currently available at the Goshen Theater? Please check all that apply. (n=383)



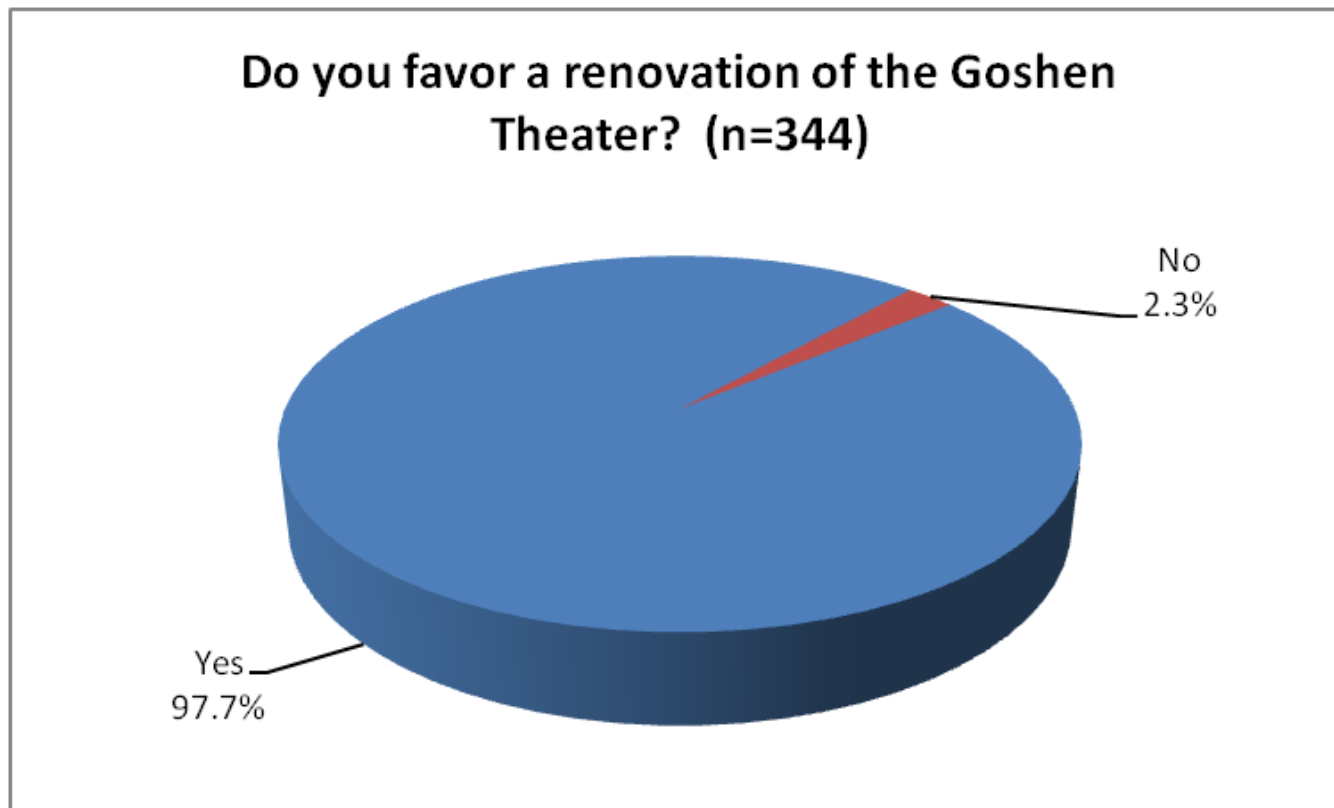
First Friday events are the most widely attended events at the Goshen Theater, with popular music, dramatic performances and films the next most attended respectively



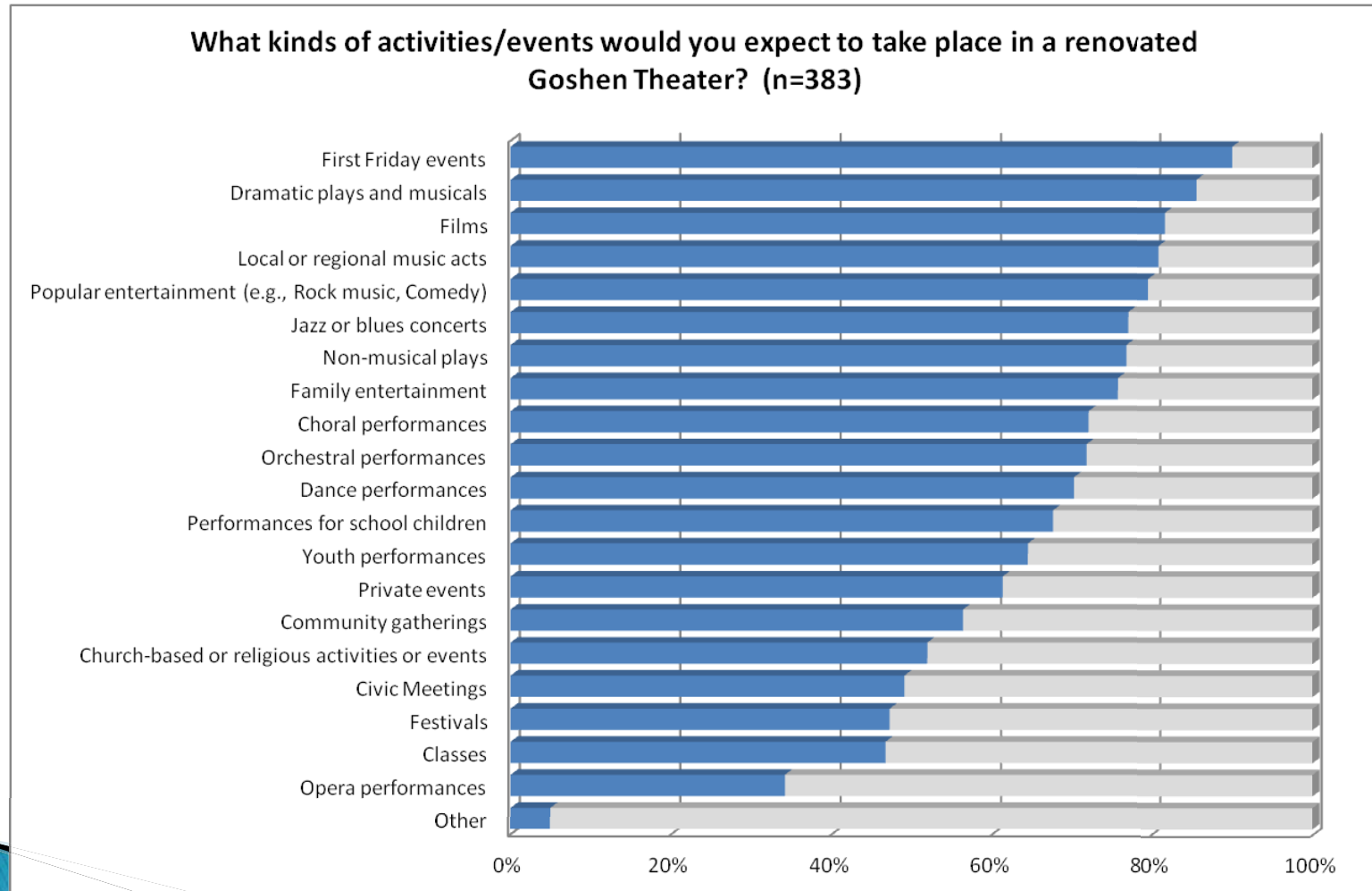
Just over one-third of respondents are satisfied with the Goshen Theater as it currently stands, with the other two-thirds either being unsatisfied or neutral



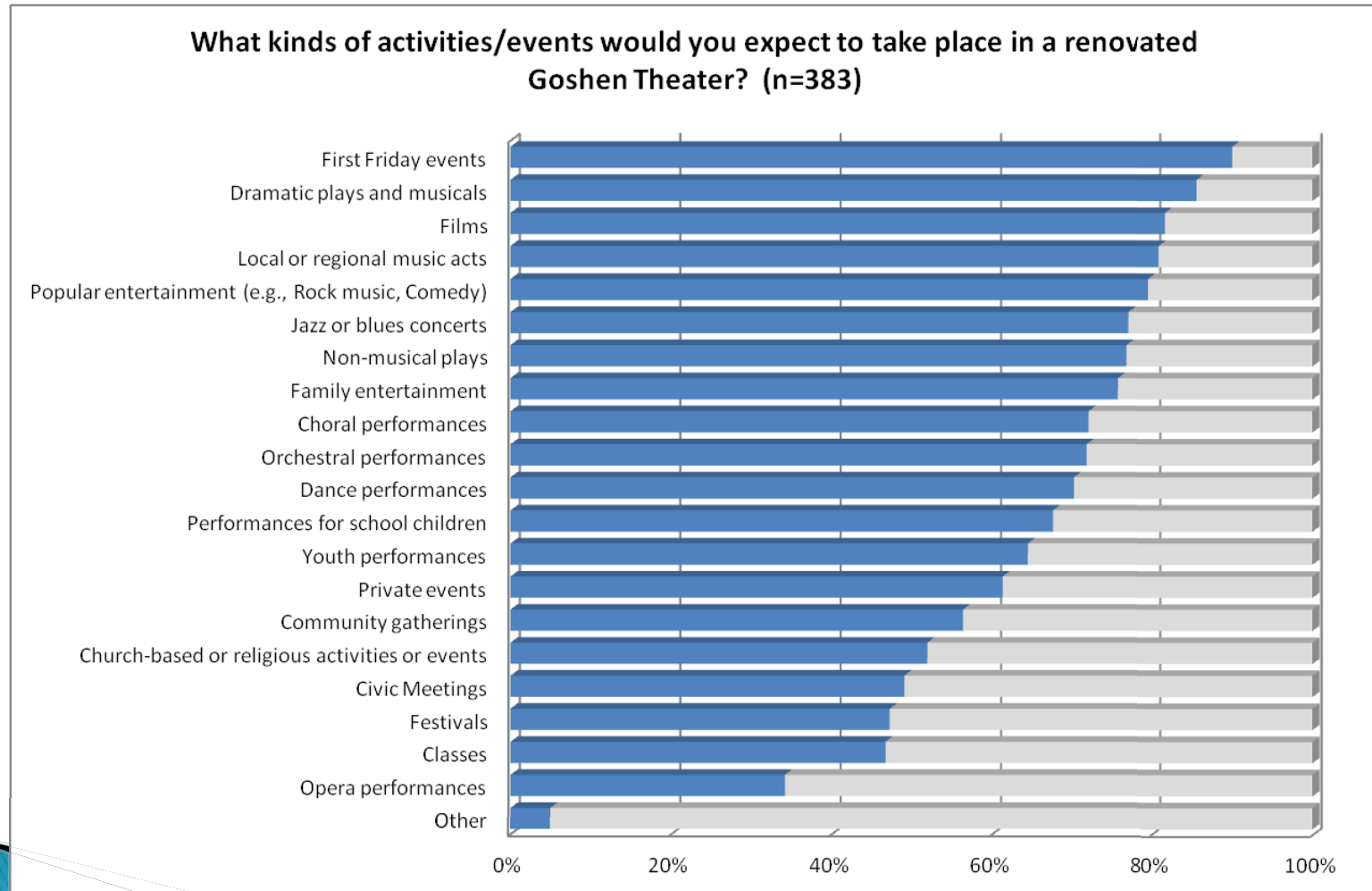
However, almost all respondents favor a renovation to the Goshen Theater



Maintaining current activities/events as well as featuring a variety of offerings is envisioned for a renovated Goshen Theater



Maintaining current activities/events as well as featuring a variety of offerings is envisioned for a renovated Goshen Theater



Most feel that performances at a renovated Goshen Theater should be priced under \$20

What do you expect to pay to attend arts and cultural activities at a renovated Goshen Theater?

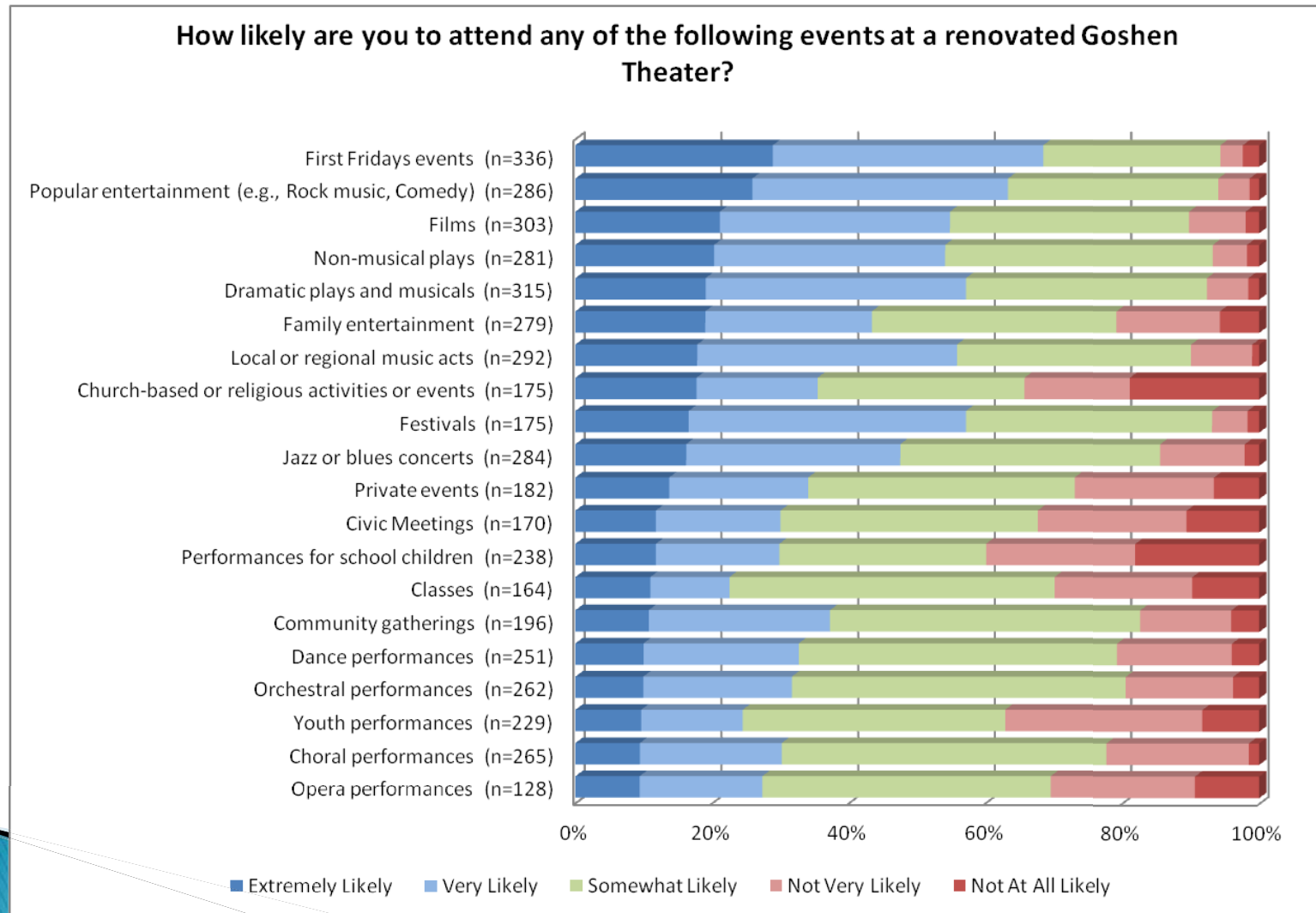
	n	Under \$10	\$10 – \$20	\$20 – \$30	\$30 – \$40	\$40 – \$50	Over \$50
Orchestral performances	251	23.9%	54.6%	15.9%	3.6%	2.0%	0.0%
Choral performances	251	33.5%	55.0%	9.6%	0.8%	1.2%	0.0%
Opera performances	115	12.2%	44.3%	27.8%	9.6%	4.3%	1.7%
Dance performances	246	35.4%	50.0%	11.4%	2.0%	1.2%	0.0%
Dramatic plays and musicals	309	17.8%	59.2%	16.8%	3.2%	2.6%	0.3%
Non-musical plays	269	20.1%	61.7%	14.1%	3.3%	0.7%	0.0%
Jazz or blues concerts	274	14.6%	55.5%	22.6%	4.4%	2.6%	0.4%
Popular entertainment (Rock music, Comedy, etc.)	282	6.7%	39.7%	29.1%	16.0%	6.4%	2.1%
Local or regional music acts	283	30.4%	51.9%	14.8%	2.5%	0.4%	0.0%
Performances for school children	230	82.6%	16.1%	0.9%	0.4%	0.0%	0.0%
Youth performances	210	84.3%	14.3%	1.0%	0.5%	0.0%	0.0%

The expectation is that films and community based events would cost less than \$10

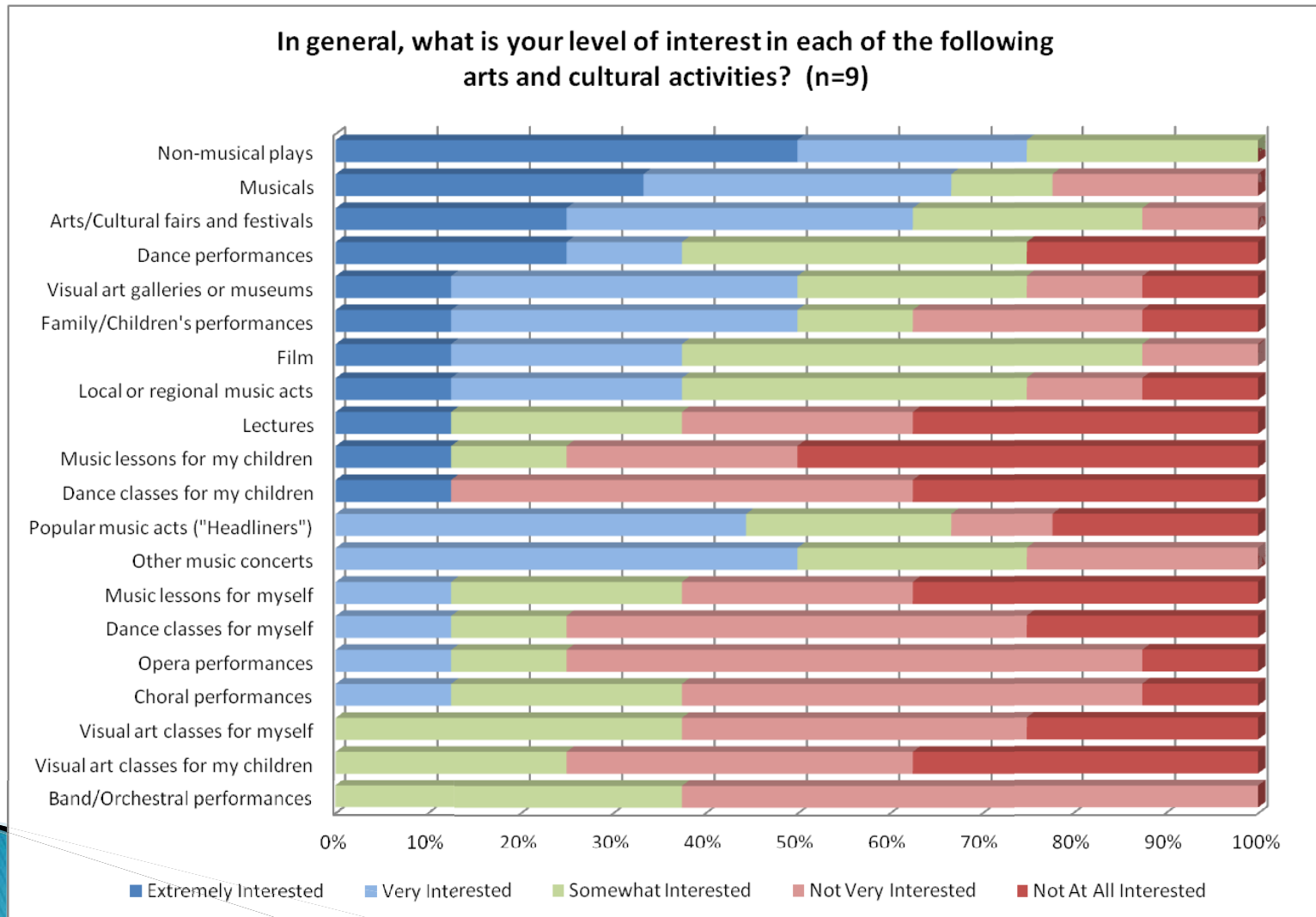
What do you expect to pay to attend arts and cultural activities at an arts and cultural center in downtown Lansdale? (n=310)

	n	Under \$10	\$10 – \$20	\$20 – \$30	\$30 – \$40	\$40 – \$50	Over \$50
Films	292	74.3%	23.6%	1.7%	0.3%	0.0%	0.0%
Civic Meetings	135	91.9%	6.7%	0.7%	0.7%	0.0%	0.0%
First Fridays events	293	89.1%	9.6%	0.7%	0.7%	0.0%	0.0%
Family entertainment	260	81.2%	18.1%	0.8%	0.0%	0.0%	0.0%
Community gatherings	163	88.3%	9.2%	1.8%	0.0%	0.0%	0.6%
Festivals	145	55.2%	33.1%	7.6%	0.7%	1.4%	2.1%
Classes	129	37.2%	39.5%	14.0%	3.1%	1.6%	4.7%
Private events	121	55.4%	11.6%	6.6%	5.0%	1.7%	19.8%
Church-based or religious activities or events	126	85.7%	8.7%	2.4%	0.8%	0.0%	2.4%

For those who envision certain events at the Goshen Theater, most would attend First Friday events, popular entertainment, films and dramatic performances

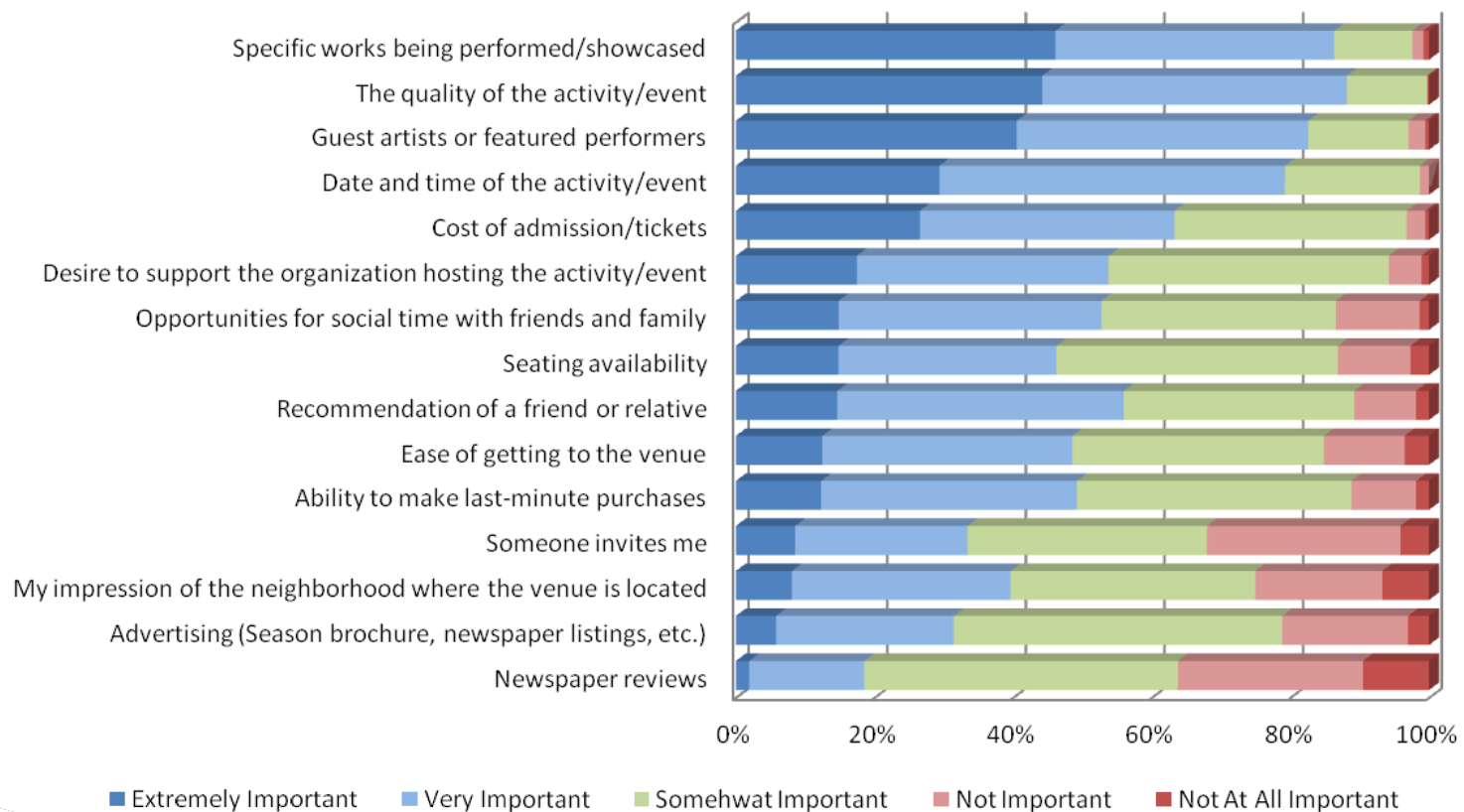


Dramatic performances and arts and cultural fairs/festivals were of most interest to those who were unaware of the Goshen Theater



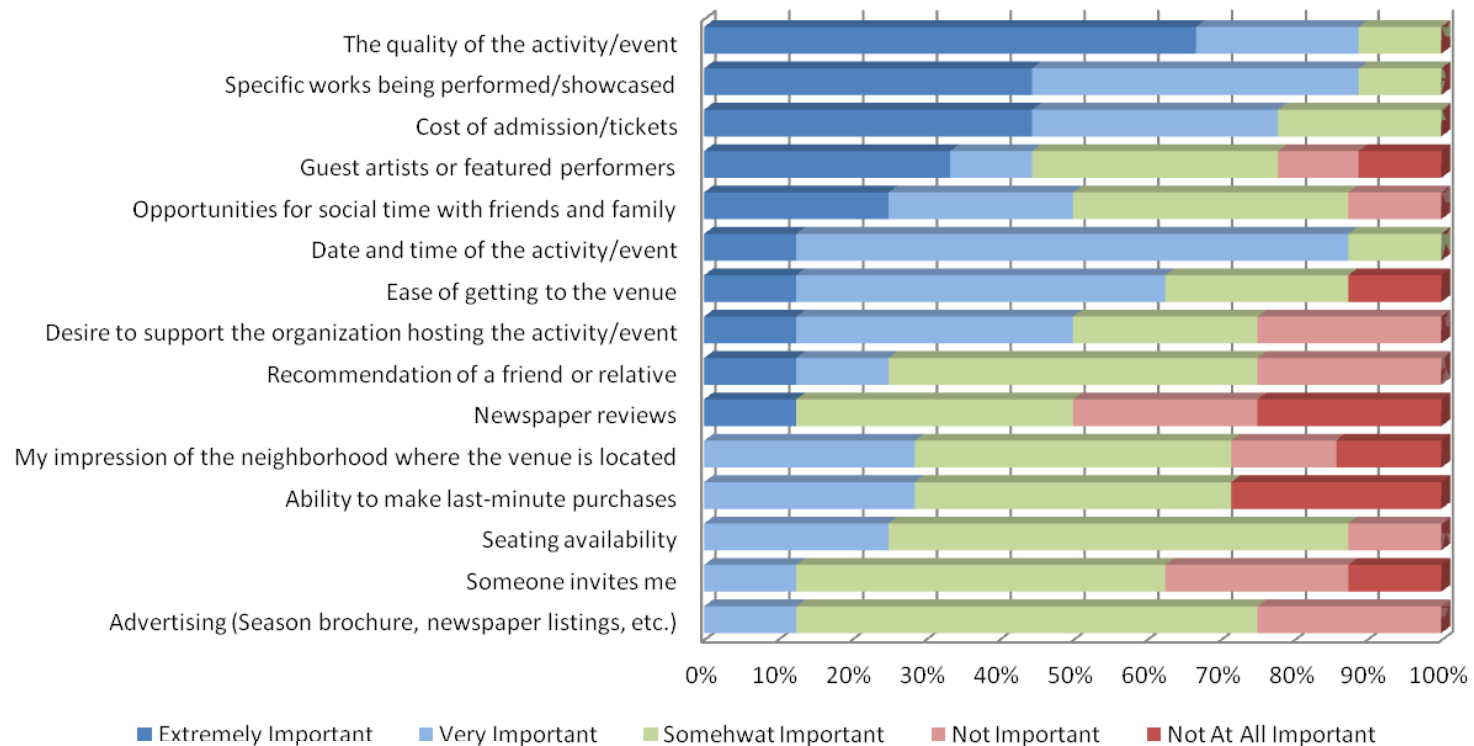
Content, quality, performers and date/time of the activity/event drives decision to attend an arts and cultural activity

How important are each of the following factors in influencing your decision to attend an arts and cultural activity? (n=379)

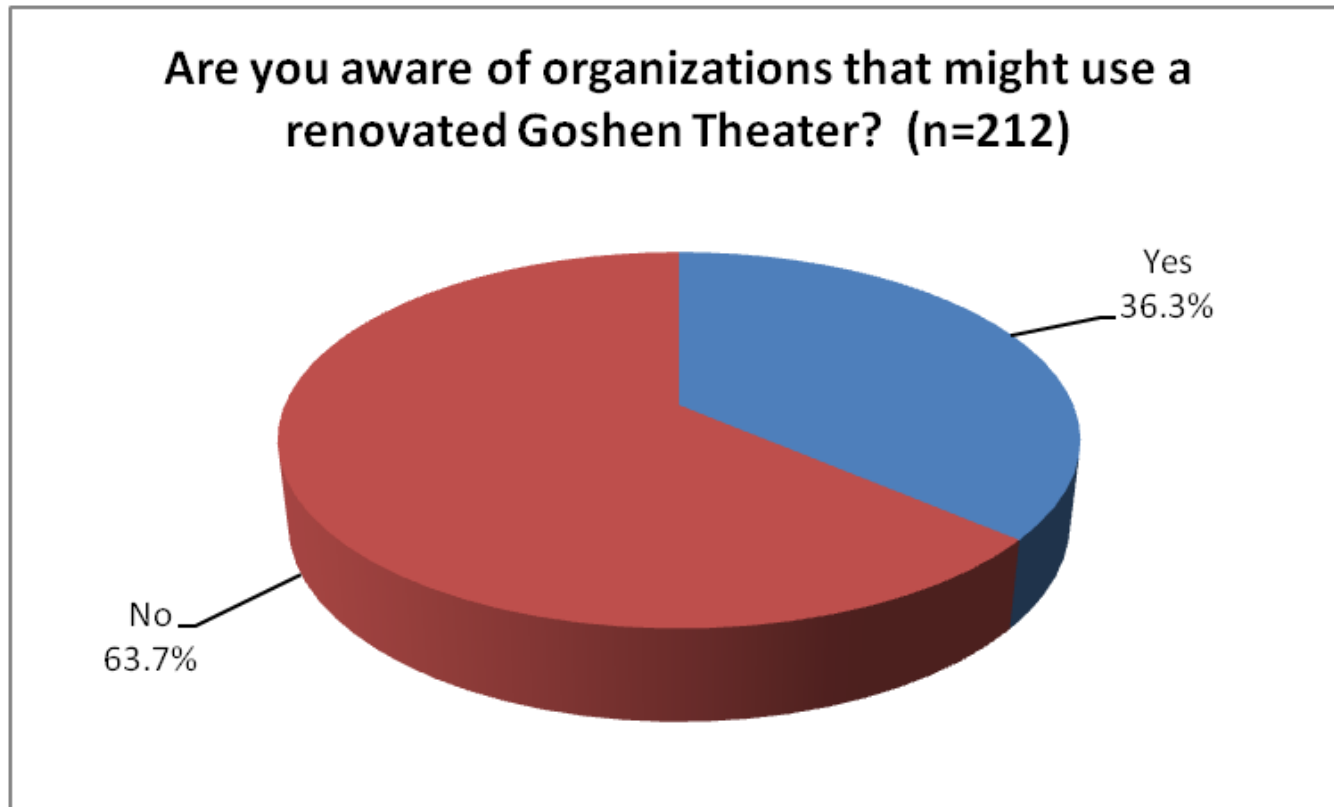


Cost of tickets is a greater factor in the decision to attend arts and cultural activities for those not aware of the Goshen Theater

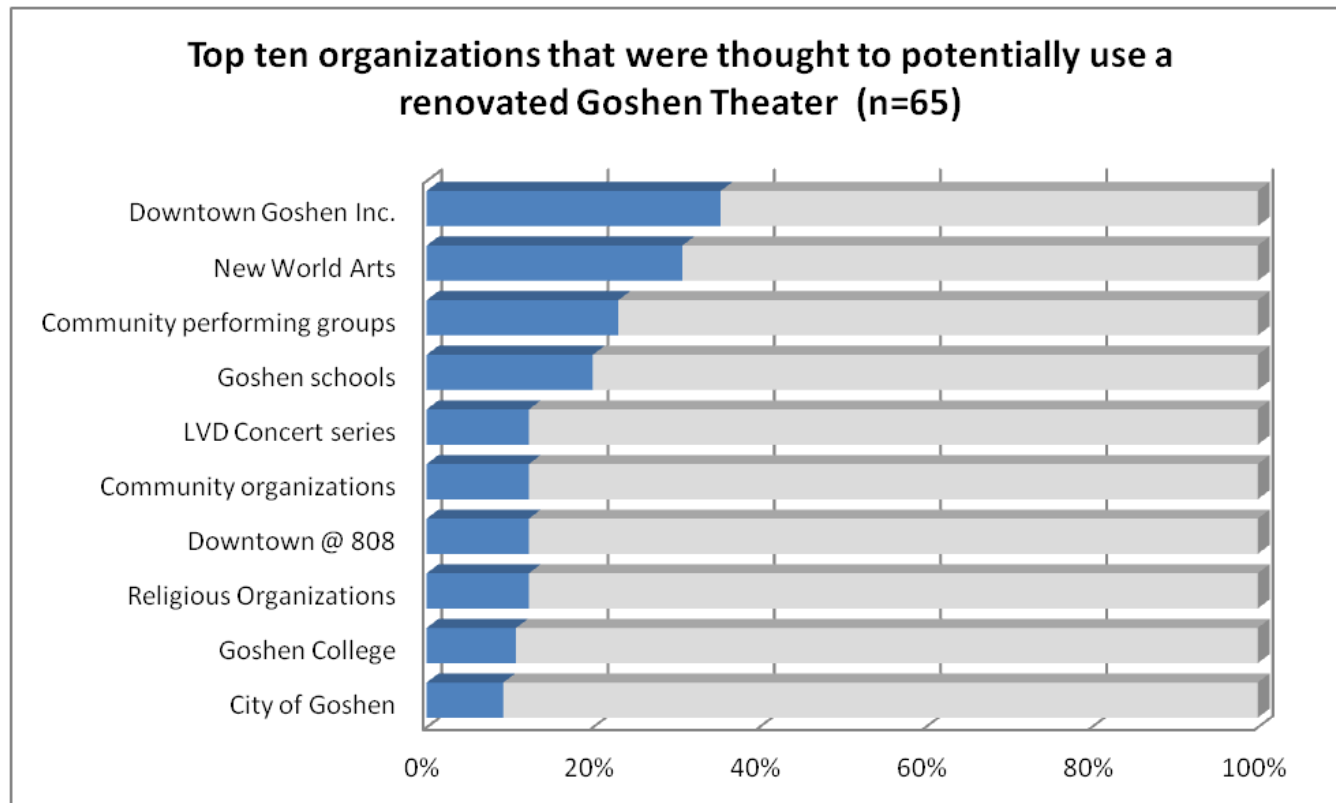
How important are each of the following factors in influencing your decision to attend an arts and cultural activity? (n=9)



Just over one-third of respondents were aware of organizations that might use a renovated Goshen Theater

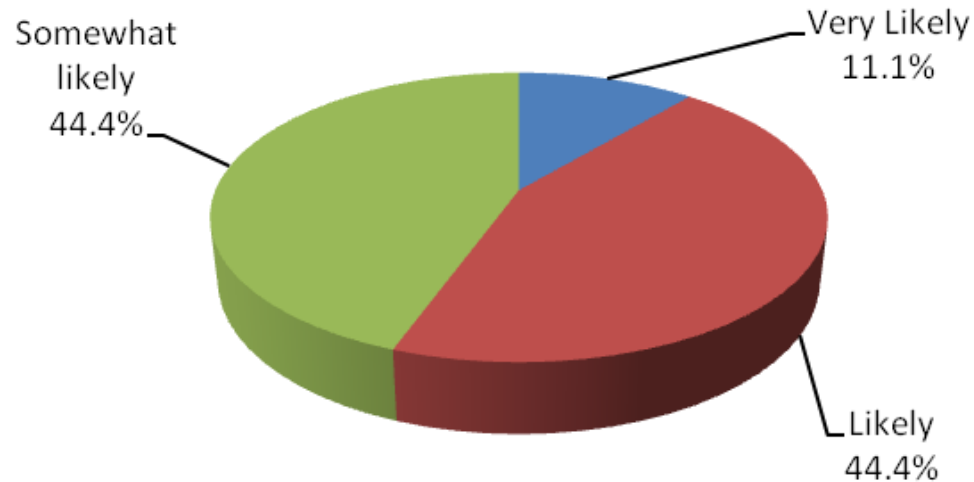


A variety of organizations were named, but the focus was on community-based potential users of a renovated Goshen Theater



For those who were not aware of the Goshen Theater, a majority would attend if they knew more about the theater

If you knew more about the Goshen Theater in regards to the arts and cultural activities/events that are available, how likely would you be to attend? (n=9)





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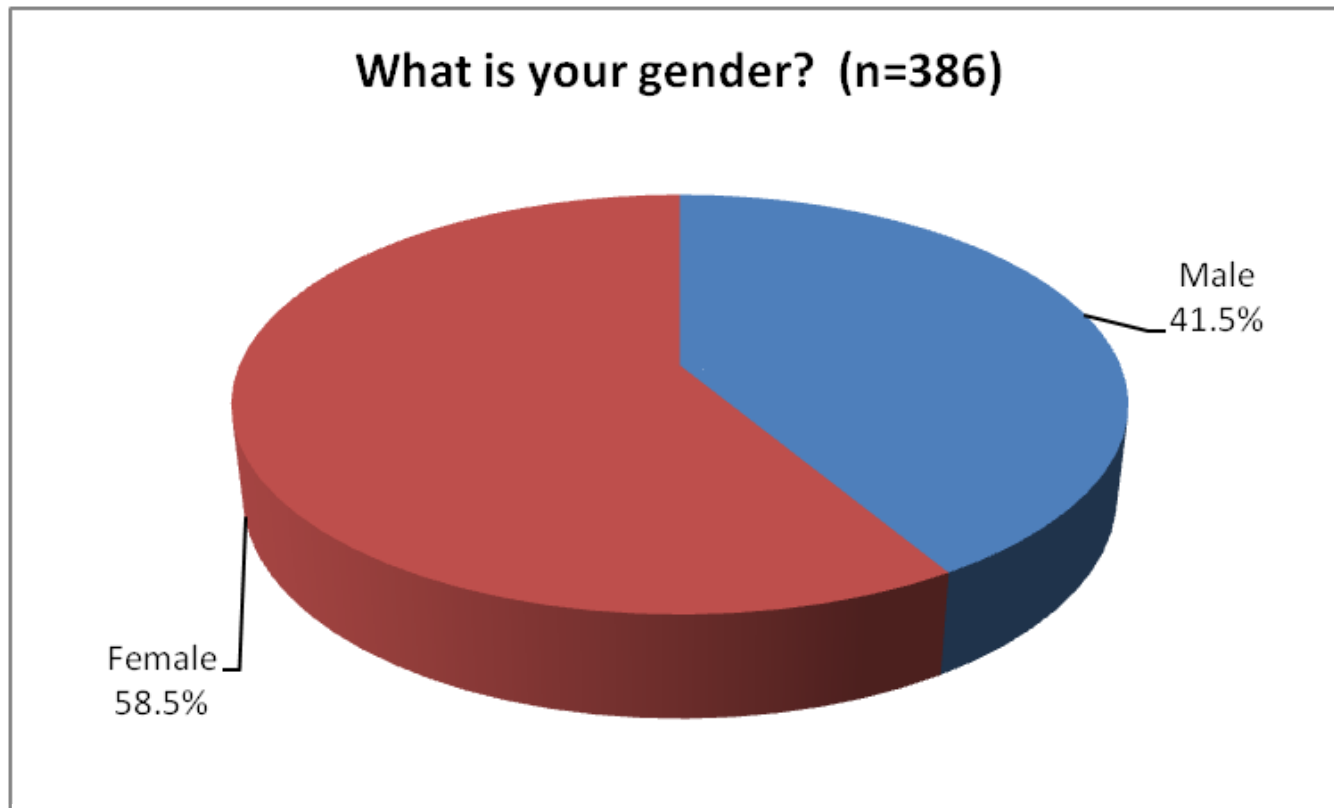
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Demographics

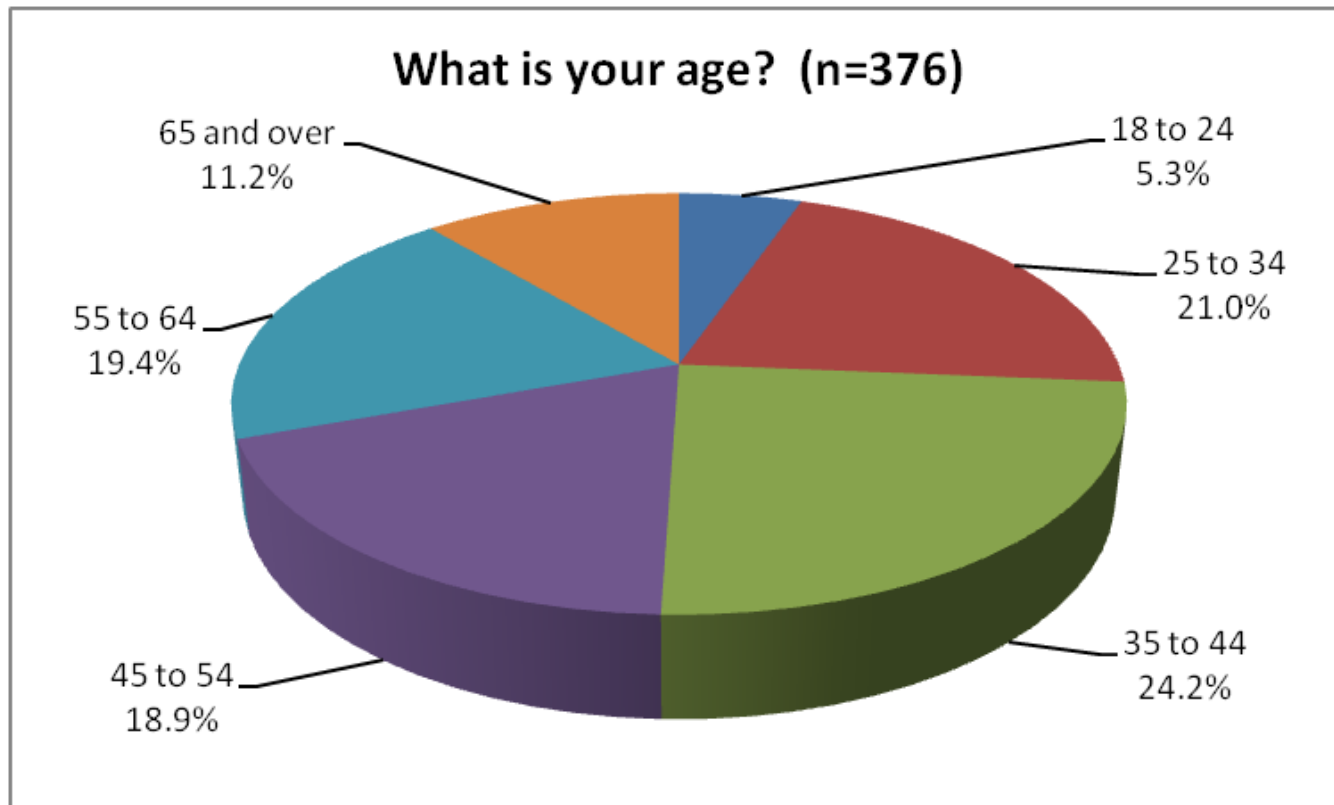
Demographic Profile of Respondents

Respondent Profile	
Gender	Female (58.5%)
Age	Under 45 (50.5%)
Race/Ethnicity	White (94.0%)
Education	At least a College Degree (67.2%)
Income	Under \$75,000 (70.0%)
Children	No children under 18 (56.9%)
Residency	Goshen (71.5%)

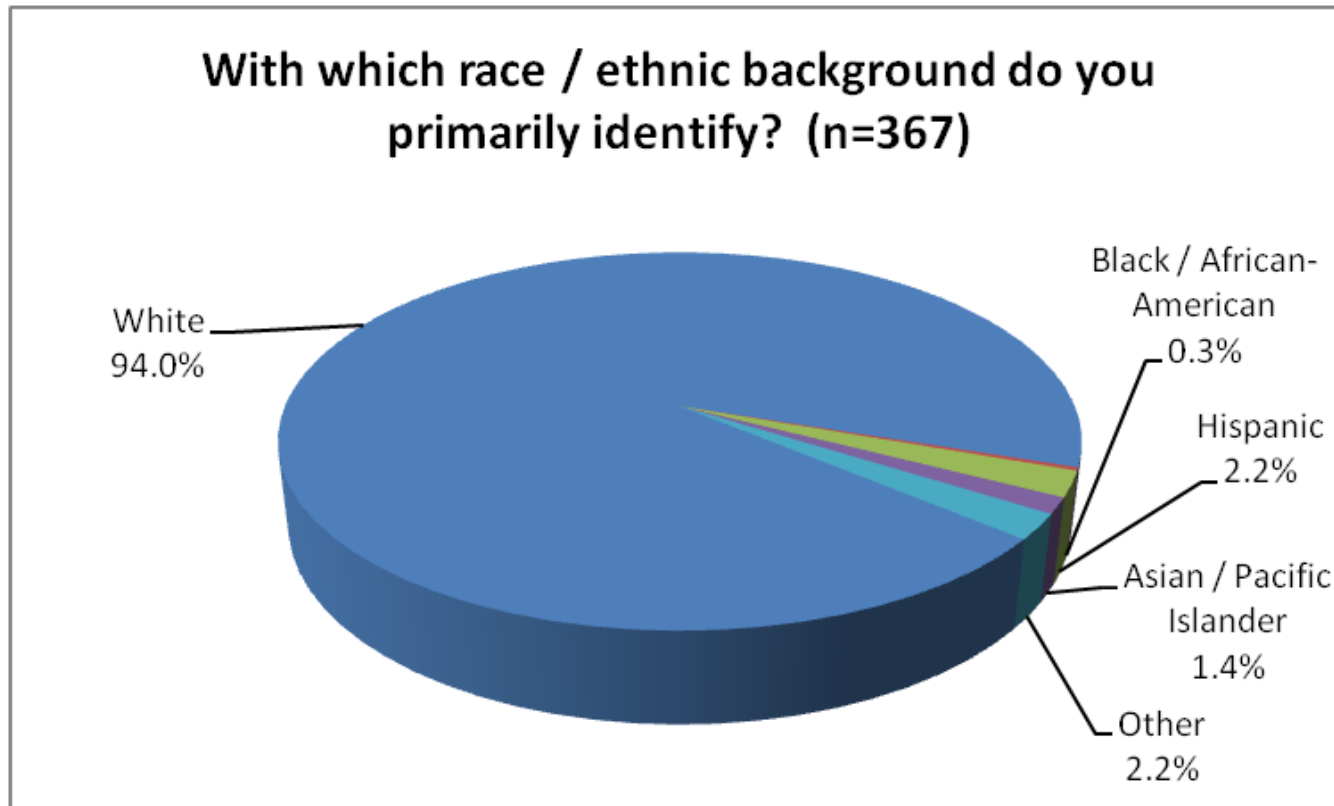
A slight majority of respondents were female



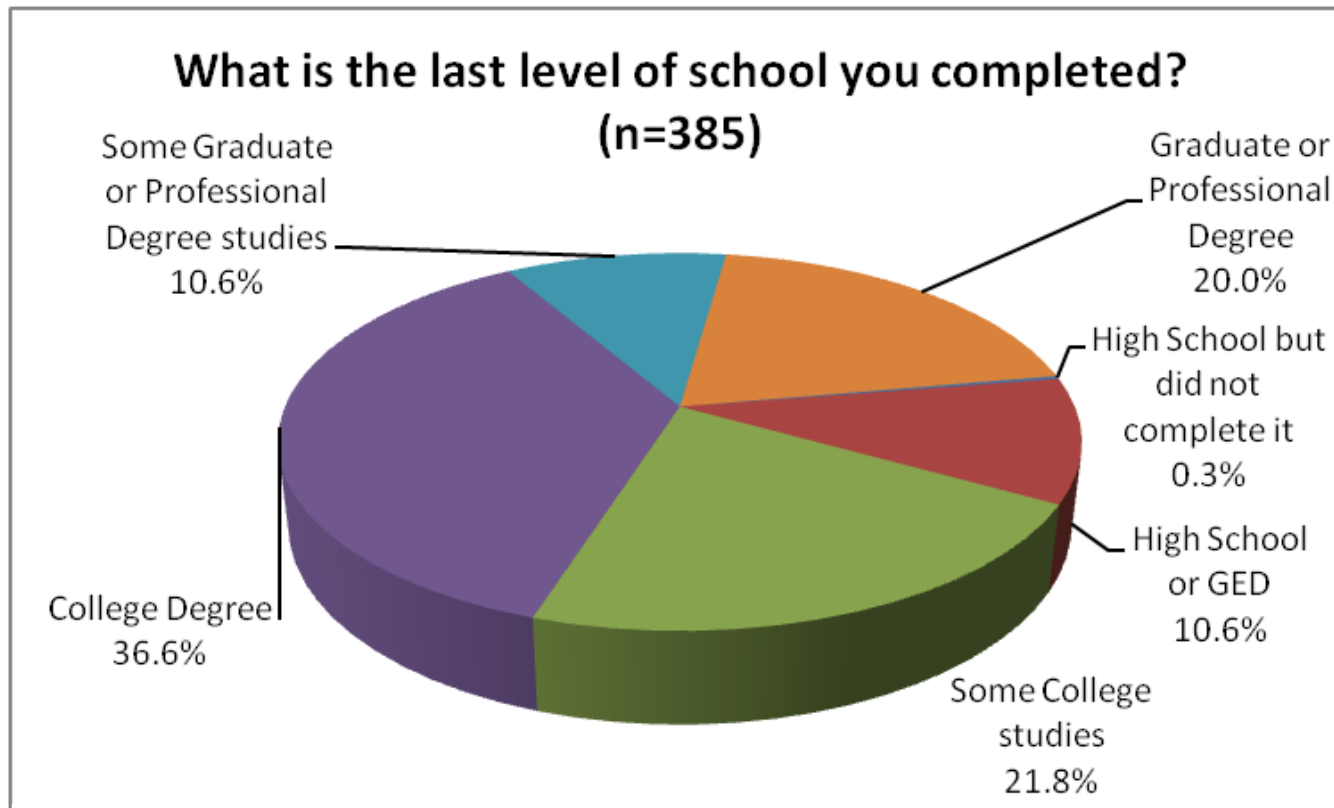
Respondents were almost evenly split between being under 45 and over 45



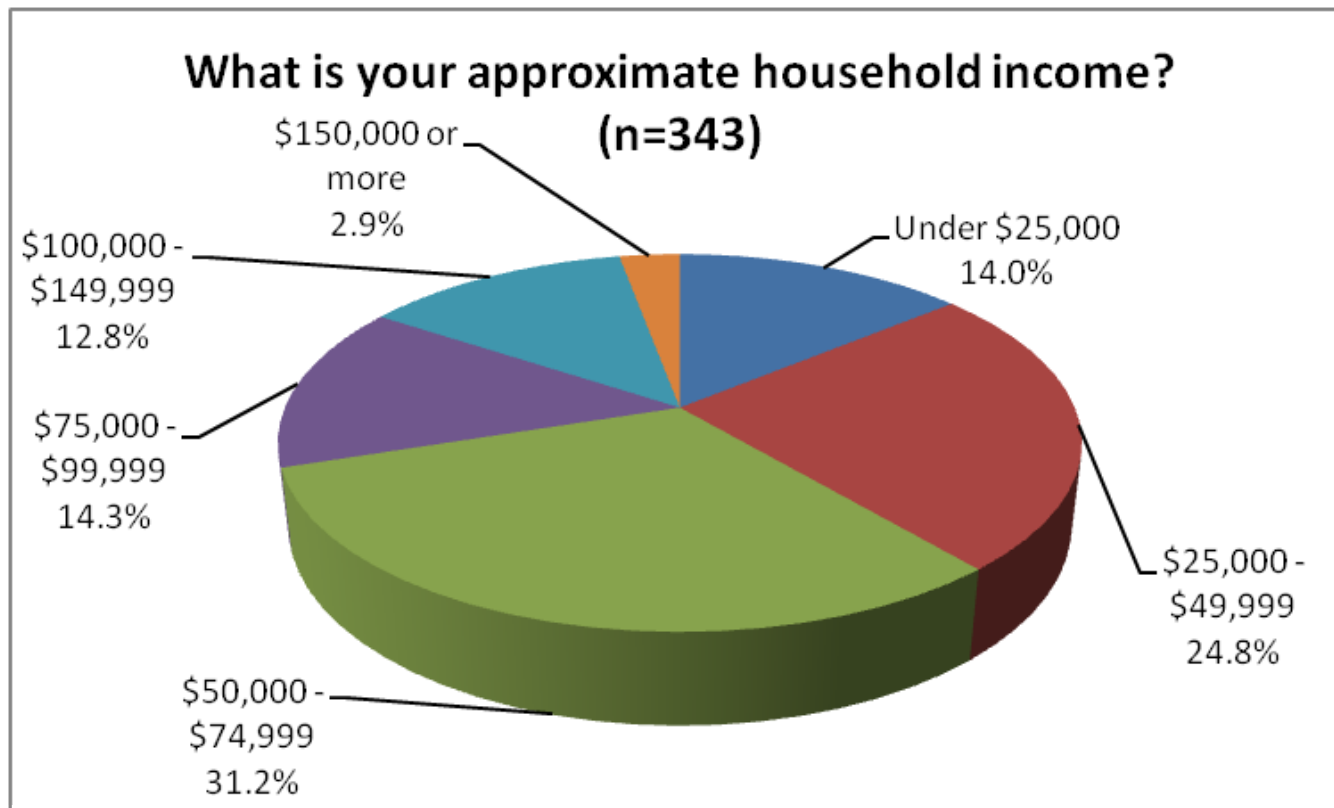
Most respondents were White, with Hispanic being the next most represented ethnicity



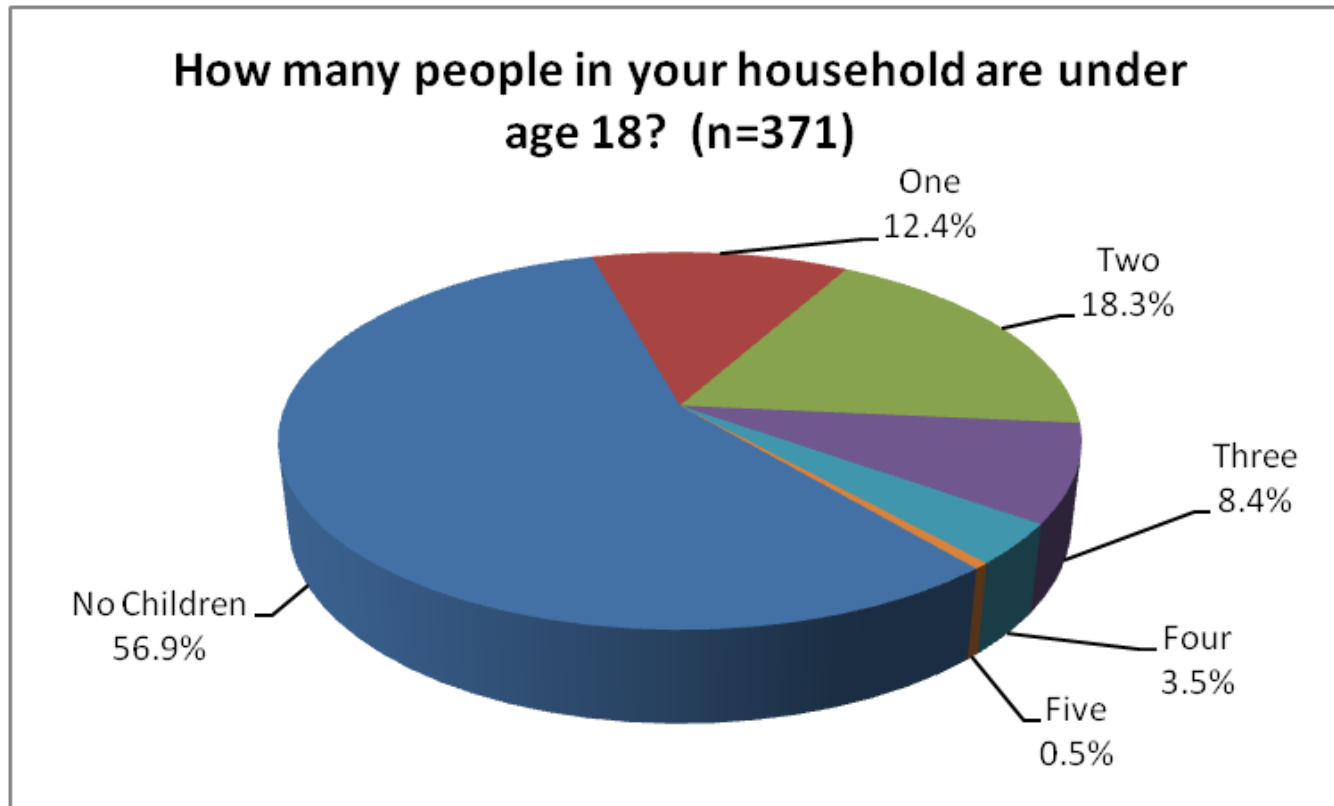
A majority of respondents had at least a college degree



Most respondent households make less than \$75,000 annually



While a majority of respondents did not have children under 18 living in their households; those that did had two or less children



Appendix

Verbatim

Please share any additional comments you might have about the Goshen Theater and the possibility of its future renovation. (n=163)

It's a beautiful building and I think it's incredibly important to the Goshen downtown.

We are a family of seven. It is very hard to find wholesome family activities that do not cost a fortune by the time we pay for everyone.

The Learner Theater in Elkhart is a good "template" of what Goshen Theater can do! I would like to see it saved. I would like to see stories about it.

a renovated theater is EXACTLY what the downtown are needs!

A renovated theater usually attracts persons who remember and enjoyed the space in years past. They are usually inviting and often present quality performances.

Adaptive reuse can be a glorious thing; but you have to accept the fact that the overall wants of the many are more important the wants of a few...(translation: the kids want rock and roll, not opera)

Advertising in the region (all of Northern Indiana) will be crucial to success (for performers and spectators), a variety of events/organizations should use the theater, private lessons are a good way to keep constant traffic in and out

Already seems like an asset and I think it has great potential especially given the renewed interest in the arts in this area over the past 10 years. I think Goshen is becoming a very interesting place to come for dinner and a night out and very interesting to touring groups. We have a really nice variety of types and sizes of venues for all kinds of performers....Sauder Hall, Ignition Garage, and others in between. Best wishes on your project!

Any renovation will need to support a wide variety of uses as opposed to a single purpose in order to be successful long term

Any renovations should be donations and not use of the city money.

As a child/young adult in the 40's & 50's my family and I attended Goshen Theater nearly weekly. I can remember singing and dancing after seeing a musical movie! The theater is an important part of Goshen!

As a teen I remember many good memories of the Goshen Theater, it would be wonderful to have it back & well attended.

Beautiful building, hope it gets renovated and used more.

Before any such renovation goes forward, I would be interested to know where the funding will come from. The city via the taxpayers? A private concern? This is a gigantic and cost-laden project and funding sources should be entered into public debate.

being able to stay local for events would be awesome !!

Certainly, it needs more bathrooms! More parking, a better sound system and movie screen. Acoustics need to be MUCH better to bring in music groups that would command a high ticket price.

does the church meeting there own the building?

Elevator, extended meeting space upstairs, accessible throughout (men's room is currently a nightmare), and plenty of parking nearby are all important.

expanded restroom space :)

Facility desired for community use. Current church ownership causes confusion who can use it. having public ownership, or neutral management would encourage more public use.

Please share any additional comments you might have about the Goshen Theater and the possibility of its future renovation. (n=163)

Goshen has an active arts community and I think it would be supported. I currently live in Mishawaka, so I don't get to Goshen as often as I would like. I think all the grand old theaters should be renovated and used for arts and education in the communities. The Lerner in Elkhart is a great example of what can be done with community support. Theater, arts and music helps keep kids off of drugs and other harmful activities.

Goshen has done a good job at keeping its downtown alive and vital to the community. A renovated GT would only enhance this even more.

Goshen is blessed to have so many opportunities already in place. Value is more in preserving and enhancing historic downtown Goshen than in providing needed performance space. Still, enhanced space would bring in additional entertainment and cultural events.

great location, can be very nice space

Have popular movies showing on a weekly basis, perhaps Tues–Thursday. Develop a more intentional screen/sound system for this.

Leverage the outside ticket booth – bring back a nostalgic flavor of the space in this way, while keeping it current with popular movies. Perhaps use a dollar theater approach, keeping it affordable for people. Also, promote the ballroom space as a conference venue. Many regional organizations, non-profits would enjoy this.

Haven't seen the inside of this space but expect it is not as 'rich' as the Lerner in Elkhart...and it doesn't need to be. Design it to fit the desires indicated in this survey but keep the costs in hand so it can survive and can be maintained at reasonable cost. Goshen is doing a great job 'reinventing' itself and staying alive through difficult times. I wish you well.

Having a space like this downtown is vital to our community

Headliner entertainment would be a great plus for Goshen. Allow the sale of alcohol at the event would help bring in more people.

Hopefully it will be a quality renovation. I realize it won't be on the same level as the Lerner in Elkhart due to the much smaller size, but it still needs to be classy.,

Hoping to see a comeback along the lines of the Lerner Theater, with acts like the Morris, and events like the South Bend Civic.

How much I am willing to pay and how interested I am in attending depends very much on what the event or who the performer is.

Impossible to give a good response with no event context.

I always enjoyed going the movies there as a teenager.

I am 91 and need good audio sound, easy parking, comfortable seats. on long programs have intermission so one is not sitting too long.

I am always annoyed if a venue does not have a standing/dancing area. Being stuck at seats is frustrating. I like to have a beer while enjoying a concert that is reasonably priced.

I am not sure that with the amount of seating that if renovated it would be able to bring the income needed to pay for the renovations. If the renovations are paid for by a grant it would be great to see more things performed there.

I answered the question about children including grandchild

I believe it would be a good place for the community to gather

I believe the theater can be an integral part of the downtown arts community and would appreciate seeing it used to its fullest potential.

Please share any additional comments you might have about the Goshen Theater and the possibility of its future renovation. (n=163)

I believe the theater has a lot of potential. I think it needs to be done in a professional manner. Lights and sound need to be up to par with what's expected of a theater of that size... I think there could be more done in terms of networking and trying to generate interest in the space and attending events in the space. At some point there may need to be the discussion of maybe a temporary liquor license for certain events. I have yet to attend an event there (other than national acts with their

I can remember my mom taking me to my first movie there back in the 60's, It was Snow White. I don't think I'll ever forget it.

I do think it would enhance the experience of Goshen citizens and guests in town. A restored space such as the Spohn Ballroom exemplifies community pride, as does all of the downtown restoration since I moved here 12 years ago, and sends a message of welcome to all.

I don't think the theater should be used as a church as well.

I favor the renovation of historic buildings, especially in a downtown venue. If well done, I think it the renovation of the Goshen Theater would tremendous value to the overall feel of a downtown. If it was designed as a multi-use space, I think it would bring a lot of people to downtown who might not otherwise come downtown. I went there as a child to see movies, and I've appreciated the efforts made during the past 10 or so years to fix it up and bring community together in different ways for a wide r

I feel it is vital to enhance the livelihood downtown Goshen. The Goshen Theater would be another asset to our vibrant community.

I feel with the current personnel, any money that is spent on this venue will be wasted money. They will not get enough acts returning to the theater year after year with the non professional personnel. Parking is another huge issue for people coming to a theater. They don't want to have to walk in the chilly weather in nice clothes for a block or more. This was one of the biggest complaints we received when our group performed at the theater in 2011. Without proper parking, the money will be spent and the

I grew up in Goshen and moved away some years ago. I moved back to Indiana in 2006 and could not WAIT to see movies in the theatre as I remembered it, and was so sad it wasn't in use. I want very much to see it restored and enjoyed again.

I have a nostalgic interest in this, as it was the place I first saw films in the 1950s. And I am concerned about the cultural prosperity of Main Street Goshen, even though I do not live there any more.

I have enjoyed performances there, and have heard similar comments from others. A renovation would be wonderful to continue to enjoy the facility for years to come.

I have had an inside tour of the theater. It would be my hope that some of the historical aspects would be preserved in a renovation; i.e., dressing rooms, catwalks, molding details. I support this venture and hope it happens soon! I think it would just be another wonderful enhancement of the growing positive features of downtown.

I have lived in Goshen for my whole life. I still remember seeing "Smurfs and the Magic Flute" at the theater when I was little. I was so happy when the building started to be used again. I think the downtown would greatly benefit from the renovation and improvements to the building. I also think it could see greater use with the many updates it could use.

I have many good memories there and would like to see it restored

I HAVE ONE OF THE ORIGINAL FIRE HOSES OUT OF THEATER. YOU CAN HAVE IT, IF YOU WANT IT. LARRY WINKLER 574-457-3588

I have recently been introduced to the Goshen Theater and didn't realize how beautiful it was! I truly hope it will have the opportunity to be renovated and historically preserved.

Please share any additional comments you might have about the Goshen Theater and the possibility of its future renovation.
(n=163)

- I have some concern over the community's ability to fund a renovation, and the subsequent cost to rent the venue for events. The Lerner Theater is an example of what NOT to do. While it is spectacular, there is no way that the county can support enough events for this to make economic sense. While it is a great venue for local theater, the quality and costs of the "featured" concerts has been a HUGE DISAPPOINTMENT. Bringing tired old entertainers and charging \$50 + will not fly.
- I have used the downstairs theater space and the top floor for dance classes. I do not know much about the facilities as a whole, or the middle floor. Those spaces are comfortable and adequate. The "old-time" feeling of the theater is a plus for me; I would not think there is a great need to replace all the seats (for example) if that had a huge price tag. Bathrooms have been fine. I've never been there when it was even one third full, so I don't have the perception of a shortage of space. I think it
- I hope that grant money and specific contributions – from local business and individuals could be used first. A third source could be taxpayer money, but I don't think this should be the major source. There are too many other really urgent needs right now – like education, and general upkeep of the streets and transportation system.
- I hope that it would preserve the historic elements – that is probably my greatest concern. It would be great if it would have more backstage and wing space. Some flexibility in the use of the space would be nice, too – i.e., possibility of setting it up for intimate performances, room to dance, large seated concerts/plays, etc...
- I hope the funding can be found to restore it as the Lerner has been restored. Not to that extreme.
- I know of theaters that use the lobby areas or other large public areas to host changing art exhibits. I think the Lerner Theater is quite successful at bringing in large crowds. Anytime I've attended a performance there, there has been a large crowd.
- I like it, but it's important that it retains the old-ish feel in some way shape or form.
- I like the Theater's old feeling. Changing out the lighting from incandescent would be nice!
- I look forward to seeing all this theatre can become.
- I love the Goshen Theater and support whatever maintenance or renovation that is necessary to keep it a vibrant part of Goshen's cultural life.
- I love the Goshen Theater, and have been attending various events there for years. It is a wonderful space for local artists.
- I love the Goshen Theater. I would love to see it keep its same look, but practical renovations are always necessary to keep up appearances and what not. I am all for anything that is decided to give the Goshen Theater what it needs.
- I love the Goshen Theatre! It's been a big part of my life and I would love to see it renovated. I used to work in the ticket booth in the early 80's and loved it!
- I think a large part of any renovation would be letting people know that the Goshen Theater still exists and has stuff going on. I think that alone may get more people in the door.
- I think a renovation would be wonderful for Goshen. I know it wouldn't be to the scale of the Lerner renovation but if it would be half as nice it would be worth the effort.
- Would love to see the Goshen Theater renovated.
- Would love to see an elevator if possible. Hauling a baby seat up to the 3rd floor for my daughter's dance class was torturous...and I was not the only one and I'm sure I won't be the last!

Please share any additional comments you might have about the Goshen Theater and the possibility of its future renovation. (n=163)

I think disassociation with any particular church or religious organization is important.

I think it fits nicely with the whole downtown revitalization and could be a real asset.

I think it is a beautiful space that should be used but I have often wondered about whether it is up to safety code. Depending on the cost, I would favor renovation. It is a historic feature in a prime location and should be preserved/maintained.

I think it is important to the downtown

I think it is very exciting to have this local gem used more many different venues!

I think it would be good for downtown.

I think it would be great to have classes there.

I think it's a great idea to renovate the Goshen theater. I love what it already brings and think a renovation would just add even more positives to downtown Goshen.

I think it's an awesome venue doing great with what it currently has with the help of hard working staff making it happen. It also has great potential to be amazing!

I think it's beautiful now.

I think its important that if time and money is put into the Theater that it be used as much as possible.

I think it's sad that the Goshen Theater has fallen into private religiously affiliated hands. Not that I have anything against religion (I'm a Christian), but that filter can limit what can be seen/done there, and if it interferes with the church's goals, then it will be compromised. I would love to see a renovated Goshen Theatre be the center stone of our thriving downtown. Why not seek grants to renovate, and get volunteers to assist? Seek a matching grant and canvas the community for donations. You

I think renovating the Goshen theater could be a vibrant part of what has already been a wonderful transition for Goshen into an artistic community that draws people from all over the region

I think renovating the Goshen Theater would be an excellent way to incorporate it with downtown Goshen. The work that Dave Pottinger & Jeremy Stutsman have done has created an interesting downtown that would be complimented by a space that offered entertainment for adults & families alike. It would be nice to see Goshen with an arts cinema or theater that got larger names a la The Vickers in Three Oaks or The Morris in South Bend. I believe there is a community in Goshen that would support a variety of entertainment

I think renovation of the Goshen Theatre could really add a great deal to downtown Goshen, and become a real gem for downtown, and add so much to life and entertainment and culture downtown. Would love to see an established theatre group/organization (or two) make the Goshen Theatre their regular home for productions. There are a couple of such organizations right now locally that could make it their new home (full or part-time) such as Elkhart Civic Theatre, and New World Arts. In the same vein, it would

I think that Goshen has been leading the Michiana area in the arts. This would be a great opportunity to continue that emerging reputation.

I think that having a resource like the Goshen Theater would be wonderful for the community. The Lerner in Elkhart has been a wonderful addition to the Elkhart community, and Goshen could benefit by having the theater restored to its former glory like the Lerner. The Goshen community is unique, we have a vibrant downtown and the community appreciates and supports what goes on.

I think that the community would rally behind the theater and support it.

I think that the theater is an important part of Goshen's cultural history. I would like to see utilized more.

I think the current design is beautiful, and I want to maintain that as much as possible.

Please share any additional comments you might have about the Goshen Theater and the possibility of its future renovation. (n=163)

I think there's a great opportunity for there to be multiple performance spaces in Goshen with the addition of a renovated Goshen Theater. I'm excited about the possibility of local/regional music acts, ones who are too small for the Learner, but draw too big of a crowd for A Constant Spring. I think one way to help the success of the Goshen Theater would be to partner with venues like Goshen College's Sauder Concert Hall, Umble Theater, and New World Arts to book and advertise the venues in town effectively

I think this would be a positive boost to our downtown as well as preserving a local historic landmark.

I think with a future renovation of the theater it would bring many more people into Goshen, especially since first Fridays have become much more popular. I live in Dunlap and always enjoy my journeys to Goshen and look forward to every first Friday to have fun and unwind and spend time with family and friends.

I wonder about competing venues...The Brew, World Books, new music store...those are all down-town locations. Is there any collaborative effort or desire to utilize Goshen Theater or does each entity need the on-location exposure to ensure ongoing business success?

I would be excited to hear that it be renovated. I attended events at other locations and loved seeing the renovations of other older theaters and seeing them used for events. Examples: Morris Civic, Embassy in Fort Wayne

I would greatly appreciate the Goshen Theater being renovated.

I would hope it would still feel "old-school", even if it were to be renovated. That's part of the charm.

I would like the name to be the Jefferson Theatre.

I would like to get involved if there is any opportunity.

I would like to see it renovated to its original status. It makes the whole experience more enjoyable to be surrounded by beautiful decor instead of walls, ceiling, and flooring in disrepair.

I would love it if Goshen Theater could host community awareness projects: maybe invite people to speak about what it's like to live in Goshen as a Latino(a), a gay person, a trans person, an African American person, a person living in poverty, etc.

I would love to see it used as a movie theatre again, showcasing classic films, art films. I so enjoyed the evening a James Dean classic was featured. It would be a refreshing change from the adolescent films at The Linway. I have so many fond memories of going to the theatre on Saturday mornings as a kid.....it kindled my love for films.

I would love to see the Goshen Theater be renovated in a way to allow for a maximum amount of types of entertainment. I think it's important to do these renovations while maintaining the integrity of the historical style and structure of the building. Excellent work so far!

I WOULD LOVE TO SEE THE GOSHEN THEATRE RENOVATED LIKE THEY DID THE LERNER AND WOULD LOVE TO SEE OUR THEATRE DO FOR GOSHEN WHAT THE LERNER HAS DONE FOR ELKHART!!!

I would love to see this as a beautiful and viable part of downtown Goshen's renovation process! Hoping it would bring in more art/cultural activities to the downtown, and give small groups a place to perform. We do have other good places for some groups (Sauder Center for the college and Maple City Chamber Orchestra, and Goshen schools have good facilities in the main) but this would be an additional venue. Having an elevator to the upper floors would be a HUGE help.

I would support the renovation of the Goshen Theater if the funding ALL is to be private money. Governments should not be in this business. Much more important things for their resources.

Please share any additional comments you might have about the Goshen Theater and the possibility of its future renovation. (n=163)

I'd love to see a project similar in scope to the Lerner Theatre in Elkhart.

I'd love to see it happen. Goshen has a great downtown and this would strengthen it further.

If I may be of future assistance in co-developing and/or executing strategic marketing and public relations plans to assist with fundraising for the renovation and marketing of our beloved Goshen Theater, please contact me at mccraecommunications@gmail.com or 574-971-0805. It would be a privilege to be part of the great Goshen Theater renaissance. Thank you for conducting this important survey and for all efforts towards ensuring the vital role of our downtown theater in arts, culture, historic preservation

I'm very supportive of this possibility. It is in line with the ongoing artistic growth this city is cultivating. How do the aspirations of this project compare to what Goshen College already offers? Having more quality performances which nourish one's soul and mind is a thrilling thought. More public lectures by recognized authorities is lacking in our area. Thank you for your vision and effort whoever you be.

In medium to small towns where a theater has been renovated, it provided a quantum increase in cultural and artistic exposure to the population. One of the most successful is the State Theater in Falls Church, VA. But it does require financing and hard work up front. If the Goshen Historical Society decides to become a partner in the renovation, I will be very proud of us. Bill Bigler

It definitely needs renovated. It is already a great component of a thriving downtown and it has huge potential for getting another/additional crowd downtown.

it doesn't need a ton of work in my opinion. but I don't mind things that are a little shabby...

It feels too closed, private, and dark. The entrance and signage needs to invite people into the space. There's no email or regular communication about events happening at the theater.

It is a beautiful building and needs to be preserved and used. Our vibrant downtown should be able to support its use.

It is a great building with neat history and it adds a lot to the down town area

It really needs renovated before more time passes and renovation costs really get high.

IT WOULD BE ASHAME TO LOSE THE GOSHEN THEATER, EVEN THOUGH I DO NOT ATTEND FUNCTIONS AND IT WOULD COMPETE WITH ELKHART AND GOSHEN COLLEGE, IT IS STILL WORTH SAVING.

it would be great to have the theater renovated for community use with acoustical upgrading

It would be interesting to see how it would coexist with the Elkhart Theater and still be successful.

It would be nice to have older movies at a reduced rate maybe once a month for families to go see. Like maybe \$5 to see a movie that was popular in the 80's or something like that.

It would draw a broader group of people.

It's a beautiful building with so many possibilities. Just needs a lot of TLC!

It's a beautiful historical place in Goshen and if a grant to renovate it can be received, it would be great to preserve it's historical value and make it more useful to the community.

It's a lovely spot that has not lost all its charm over the years and could with sufficient funds be brought back to past glory and community pride.

It's exciting to me to think about the theater being a hub of the community in downtown Goshen. I think a diverse range of events would serve our community well. The thought of civic events and community dialogue happening there feels like it strengths the theaters place in the community.

Please share any additional comments you might have about the Goshen Theater and the possibility of its future renovation. (n=163)

Just that I wish they had a parking lot that was secure for evening performances.

keep it looking like it did when I was a kid in the 60's and early 70's.

Let's go for it. It's a downtown treasure, and is critical to the community and financial health of the downtown.

Long time Goshen resident and have found memories of going to the shows when I was a child and would like it to remain a vibrant fixture of the downtown.

Our family enjoys going to the movies there. A renovation doesn't need to take place for this activity, but there are activities that may attract more income that would require a renovation.

Please use the space below to share any additional comments you might have ab...-

Providing constructive entertainment for children and families is important for bringing busy families together and keeping children safe and out of trouble. A successful First Friday event would also provide something for the teens to do other than loitering.

Raised in Goshen from 1946 until I left for college, army, etc. Attended many movies as a child and teen. Would like to see the Saturday morning children movies/news/cartoons again.

right now...it sucks

Seria una buena inversión para la comunidad, pues el edificio ha sido abierto para servir la comunidad de Glosen y de sus alrededores.

Some good acts would be awesome. Rock, country, blues.

Some type of concessions or catering would be nice

The bathrooms need to be completely overhauled and modernized, but fitting with the architectural design of the building. As usual, twice as many stalls should be provided for the women than for men.

The Goshen Theater could really use a renovation now, before the repairs keep building up and might cost a lot more in the future

The Goshen Theater has tremendous potential as a fully-functional traditional theater as well as a facility that has other areas available for a variety of use. It is a genuine asset to this community, especially to the arts community. It does still need additional work, especially in the areas of redecorating, updating, and accessibility, but it is demonstrably moving in the right direction. I want to add that I am not just saying this because I'm the Mom of the venue manager, but because I have a semi-p

The Goshen Theater is a fantastic addition to the Goshen community. The city of Goshen is really beginning to be a great artist community and a renovated Goshen Theater would be a huge plus for this. There are some great local designers and visual artists that are always looking for more spaces to show their work. Along with visual artists, we have musicians, actors, and writers who need a great venue to showcase their talents. It is my hope that the Goshen Theater can be rehabbed and that people really will

The Goshen Theater is part of the city's history and provides the community with a place that not only contributes to the spiritual well-being of Christians but also other groups – both children and adults in a variety of artistic and cultural activities. Renovation of the Goshen Theater could put it in a place where it can continue to serve and enrich the community as it has in the past but also give it the capability to expand it's offerings. The more reasons there are for people to participate in event

The Goshen Theater is such a beautiful building and has the potential to become so much more. I am personally in favor of having it renovated to restore the beauty that it once held in its day. I can see the many possibilities that the Goshen theater can provide and with a renovation it can become so much more.

The Goshen Theater should be used and not get any more deteriorated.

The last time we were in the Theater, we were commenting on how nice it was. I'm not convinced it needs renovating.

Please share any additional comments you might have about the Goshen Theater and the possibility of its future renovation. (n=163)

The Lerner in Elkhart has, since it's renovation, had top selling acts such as Kansas and Willie Nelson (I know, I created the posters for each show). I think Goshen Theatre could obtain the same quality performers... and would love to create posters for those acts :)

The Lerner Theater in Elkhart is a good model for this. It seems to have made a nice contribution to the revitalization of the downtown. It is important for it to be a really good restoration. Acoustics will be very important. If they are poor, good acts won't be interested in the venue and audiences will be disappointed with the experience.

The more we can use it the better for Goshen

The renovated Lerner Theater in Elkhart has been great for that community. Goshen deserves a great venue like the Lerner.

The theater has a lot of great qualities but does need a lot of repairs to up grade areas. I hope the right people are able to give it the attention it needs to be updated with the right funds. It's a beautiful building & so many events more events could be held in there once its more updated.

The theater has great possibilities for future guests and artists that it could host, and that is just the auditorium, that's not including the rest of the building which also has the potential to be beneficial for the Goshen community.

The theater renovation would be an asset for the Goshen community a source of local pride.

The theater space on Main St. is certainly an asset to Goshen and needs to be maintained and improved. New seats would be the first improvement that comes to my mind. Definitely needed.

there are a variety of performances that could and should be brought in to increase the arts and entertainment in Goshen if the Theatre got the renovation it so desperately needs. I look forward to seeing future productions at the Goshen theatre.

There are very few high-quality venues for local and up-and-coming musical artists east of the South Bend – Mishawaka area. Enthusiastic arts lovers are the ones who will sustain the arts scenes; fill the events calendar with artists who are creating new high quality work and the enthusiasts will spread the word. "New" is the key word because oldies acts will not generate repeat business or buzz. Downtown Goshen has built a fantastic food scene over the last five years, now it just needs a dedicated arts venue We have enjoyed events there in the past and it could only get better as the building is improved. It is a good central location to our town and a popular place to meet people. It's only natural to renovate and continue to utilize the building for events, in conjunction with First Fridays and the Christmas Shopping downtown, etc. We live within walking distance so parking isn't a problem for us, however, this might be a snag for attendees; especially in Winter times.

We really need somewhere in Goshen to get a little "culture".

We regularly support and attend the newly renovated Lerner Theatre in Elkhart. A similar venue closer to our home in Goshen would receive our families full support and attention if similarly outfitted and operated.

What an exciting idea!

When I drive through town I always look at the Theaters sign to see what is happening...

While I no longer live in Goshen, I applaud efforts to renovate the theater. I was an important part of my youth and deserves to be the site of entertainment and cultural events again.

While structural modifications and decor are important, during the renovation put a lot of time into planning tech system upgrades. Those are the things that enable performances and bring in the acts.

With the way Goshen has grown, it seems fit to bring the old theater back to life. Lets get people to town more often then just on First Friday!



**Goshen Theater
Feasibility Study**
Appendix 3: Comparable Facilities Report
June, 2012



Venue Name	The Paramount Theatre & Visual Arts Center
Venues	Paramount Theatre – 714 seats, Visual Arts Center; Paramount Gallery and Gifts
Location	St. Cloud, Minnesota
Owner / Operator	Owned By – City of St. Cloud Operated By – Paramount Arts Resource Trust, 501(c)(3)
Mission Statement	The mission of the Paramount Theatre & Visual Arts Center is to provide opportunities for artistic production, creative exploration, arts education and the enjoyment of arts and entertainment.
Description	The Paramount Theatre & Visual Arts Center is an historic theater located in downtown St. Cloud. A rental-only facility, it supports community and artistic groups and artists of many genres. The Visual Arts Center hosts studio arts classes in a variety of media.

MISSION STATEMENT

The mission of the Paramount Theatre & Visual Arts Center is to provide opportunities for artistic production, creative exploration, arts education and the enjoyment of arts and entertainment.

The facility is managed to ensure use by a diverse set of patrons, enhance artistic opportunity, provide a creative environment for community involvement in the arts and generate a positive economic impact on Downtown St. Cloud.

BACKGROUND AND HISTORY



On Christmas Eve 1921, citizens of Central Minnesota paid fifty cents to attend the grand opening of "St. Cloud's Largest and Finest Playhouse," The Sherman Theatre. The event, featuring D.W. Griffith's silent film "Way Down East," accompanied by a live orchestra, was the beginning of generations of entertainment at the theatre, including Vaudeville acts, operas, concerts, Broadway road shows, animal acts, wrestling matches, speeches, political rallies, plays and movies.

Although it was not the first theatre of its kind in St. Cloud, it was said to be the grandest, with seating for 1,700, a decorative lobby and foyer, a majestic theatre organ and a stage to accommodate large sets and up to 30 dancers. Entertainers and celebrities enjoyed the Sherman's private dressing rooms, state-of-the-art "air conditioning system" and its proximity to St. Cloud's finest hotel, the Breen. Also built in 1921, the Breen Hotel served as the perfect companion for this

lush new theatre, with its 180 mahogany-finished rooms, two dining rooms and elevators that brought guests up to a roof garden which, at the time, was the highest point in the city.

Today, these landmark buildings stand as symbols to residents of what a lively, bustling downtown St. Cloud might have been like in the "Roaring Twenties." In 1997, the Breen Hotel became known as the Germain Towers; the upper floors having been converted to housing units for elderly residents. The Sherman Theatre (originally named after well-known Minneapolis motion picture executive Harry A. Sherman) was renamed the Paramount in 1930, when the theatre underwent its first renovation, adding sound equipment to accommodate the new "talkies" and featuring a new marquee.

Although movies had become the primary focus, the generation that followed enjoyed various types of entertainment, including road shows, movie stars and, eventually, WWII rallies and performances. The Paramount, like so many theatres of its stature, played an integral role in

helping the citizens of Central Minnesota through the Great Depression and WWII. After the war, the Paramount was remodeled once again to further improve the acoustics and to change the marquee to its present form.

By the mid 1960s, the Paramount had fallen into disrepair. The theatre was used for small scale viewings, but was not being used to its fullest potential. After years of neglect, the Paramount fell victim to fire on Tuesday, January 15, 1985. The damage was fairly extensive, estimated at \$60,000.

During the early 1990s, the Paramount was patched and upgraded enough to provide a home to live theatre once again. The major renovation to return the Paramount to its rightful place as the cultural centerpiece of downtown St. Cloud was underway!

It has taken the cooperation of many groups to see the Paramount Theatre's renovation through to completion. Task force groups had to be organized, while fundraising events were established. In the end, local support and volunteer efforts were integral in building the Paramount Resource Trust into something that the St. Cloud community could once again be proud of. More than just a theatre, the Paramount is working to improve the artistic opportunities for all people of Central Minnesota.

FACILITY



The Paramount Theatre & Visual Arts Center is a multi-use venue located in downtown St. Cloud.

There is a visual arts center that is a part of the theatre complex, as well as a gallery and gift store located next door. There are 706 seats in the theatre; 445 on the main level and 261 in the balcony.

The stage is 29' deep. The apron downstage of the plaster line is 6'. The orchestra pit elevator extends the apron 12'. Altogether, the stage measures 47' deep by 40' wide. The decorative proscenium arch is 39'11" wide x 21'8" high. Stage right has 12' of clear space from the upstage edge of the plaster line tapering to 10'23" to the back wall. Stage left has 12' of clear space from the upstage edge of the plaster line tapering to 9' at 20'6" upstage of the plaster line. There is a 4' crossover from the last batten used to the furthest upstage wall of the stage. Grid height from the

deck to top of catwalks is 44' with effective flying height of 43'.

The front edge of stage is 2'10" above first row floor. The orchestra pit elevator is 40' wide. It measures 12' from the downstage edge to the upstage edge at the centerline and 8' at the offstage ends. The pit drops to two double hung doors into the pit storage room and also one door to the green room. The two double hung doors for storage area have openings that are 5'10" high and 5'4" wide.

The loading area has direct access to the stage, however, this access is from a busy street. The loading doors are 3' above the sidewalk. For heavy equipment and cases with wheels, there is an accessible hallway from the sidewalk to the theatre house.

PROGRAMMING

The Paramount Theatre & Visual Arts Center is a rental only facility, which hosts approximately 50 performances each year. Performances include jazz music, folk music, musical theatre, theatre, comedy, film, dance, choral music, country music, community band, lectures and popular music. Ticket prices range as follows:

Jazz Music	\$10-\$20
Folk Music	\$20, \$13-\$17
Musical Theatre	\$10-\$35, \$16-\$22
Theatre	\$21-\$23, \$17-\$19
Comedy	\$20
Film	\$5, Free
Dance	\$15-\$18
Choral Music	\$6, \$15
Country Music	\$17-\$20, \$15-\$18
Community Band	Free
Lecture	\$15-\$30, \$7-\$12
Popular Music	\$20, \$20-\$26, \$28-\$44

Group and student pricing are available for some performances. The Paramount operates its own box office and sells tickets online, in person and over the phone.

There are no resident companies, but details on programming offerings are divided into community versus commercial activities:

Community	Musical Theatre, Film, Choral Music, Community Band, Lectures, Dance
Commercial	Jazz Music, Folk Music, Theatre, Comedy, Country Music, Popular Music

80% of the events on the Paramount's stage are community rentals. The following organizations and performers annually rent the facilities, with the balance being commercial renters:

- St. Cloud Municipal Band
- Stroia Ballet Company
- Hepcat Junction
- Jim Brickman
- Three Sisters Publishing
- The GREAT Theatre
- St. John's Boys Choir
- Gone Fishin' Gospel Group
- Ozark Jubilee
- GLBerg Entertainment
- St. Cloud Singing Saints
- Minnesota Dance Ensemble
- LEAF Empty Bowls
- St. Cloud Christian School
- Ring of Kerry
- St. John's Preparatory School
- The Peterson Family
- Helps International, Inc.
- Cathedral High School
- Company North Crest
- Visual Arts Minnesota
- Robert Robinson
- Independent Lifestyles

The Visual Arts Center offers a variety of studio arts classes, Monday through Friday, 10am-9pm, with weekend and summer programs as well. Open Studio and Teen Night meets every Thursday from 6-9pm and offers experimentation in a variety of mediums.

OWNERSHIP/OPERATING STRUCTURE

The facility is owned by the City of St. Cloud and operated by Paramount Arts Resource Trust, a 501(c)(3) private, nonprofit organization. The board of directors is 16 members.

STAFF

The Center employs nine staff, as shown below:

- Executive Director
- Visual Arts Director
- Performing Arts Director
- Finance Director
- Technical Director
- Gallery Manager
- Event Manager
- Visual Arts Center Office Manager
- Marketing Assistant

The staff is complemented by a volunteer usher program.

FINANCIAL INFORMATION

The annual operational budget is \$944,911, with total revenues of \$1,027,018 and a year-end surplus of \$82,107. Revenues by category include the following:

Earned Revenues

Program service revenue	\$758,210
Investment income	\$ 669
Other income	\$ 59,240

Contributed revenues	\$208,899
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UNIVERSITY PRESENCE and OTHER VENUES

St. Cloud is the home of St. Cloud University, with a student body of 18,000. St. Cloud Technical and Community College, Rasmussen College, Globe University/Minnesota School of Business and College of St. Scholastica also make their home in St. Cloud

St. Cloud University is east of the downtown area and houses a Performing Arts Center, which was built in 1968. Music, theatre, film studies, dance classrooms and offices are located in this building. There is also a main theatre (seating 450), a studio theatre and recital hall (seating 300), a rehearsal hall and private practice studios. These venues only present student productions.



Venue Name	The State Theatre
Venues	571-seat theatre
Location	State College, Pennsylvania
Owner / Operator	Owned By – City of State College Operated By –The State Theatre Inc., 501(c)(3)
Mission Statement	We are a vibrant, inclusive theatre, offering our venue as a community stage, a center for local, regional and international performers, an experiential learning environment and a responsive philanthropic space.
Description	The State Theatre is a 571-seat theatre that was renovated and reopened in 2006 as a community facility to support local arts groups and artists. A smaller reception lobby or studio theatre supports community organizations. The State Theatre organization seeks to provide broad community support through reasonable rental fees and marketing support.

MISSION STATEMENT

The mission of the State Theatre is: *We are a vibrant, inclusive theatre, offering our venue as a community stage, a center for local, regional and international performers, an experiential learning environment and a responsive philanthropic space.*

BACKGROUND AND HISTORY

In 1938, Warner Brothers opened the State Theatre as a test market for new films. It was built by John Hamilton Henzey for RCA Films at a cost of \$70,000. The first showing at The State Theatre was "The Sisters" — from "the best-selling novel" — was accompanied by "The Outstanding Short Subject of the Year: 'The Declaration of Independence.'" The State, said Warner Bros., was one of only three theatres "in the United States to premiere" the new featured film.

The State Theatre opened with a general admission price of 30 cents for matinees, 35 cents after 5pm; children were admitted for 15 cents "at all times." The film schedule to be followed would provide patrons with four different offerings each week.

A "Colonial Motif" graced The State. "The general architecture of the building and front is of colonial style in keeping with the architectural scheme of State College, but the interior is markedly modern and simple with pastel colors, [rich] drapes and a unique lighting system." Suggesting that the opulence of older theatres detracted from the film itself, one of the news stories proclaimed: "The day of the over-bedecked, gilded and ornate theatre palace that was the high point of its day, ten years ago, has given way to the functional theatre. That is a theatre whose beauty is designed to further the requirements of sound, projection and comfort."

Over time the theatre deteriorated and finally its doors closed in 2001. However, some dedicated community members envisioned a new life for the dilapidated theater: an arts performance center, owned and operated by the community. Local groups would have a home stage and citizens would be able to enjoy diverse music and theatre in an intimate setting. The State Theatre had the potential to revitalize the downtown, expose a range of people to artists, both national and international, and bring additional income into the community.

An enthusiastic local contingent threw their weight behind the revival, hosting events, selling pavers and touting the case of the State. Sidney and Helen Friedman generously gave both the theatre and a monetary gift to the community and renovations began. The reconstruction unearthed many lovely architectural elements that were subsequently preserved. The lush glory of the State's former life was being renewed and State College regained its historic gem. The theatre was renovated in 2006 and received a 1,170 square foot expansion and excavation under the stage and beyond the back corner wall.

FACILITY



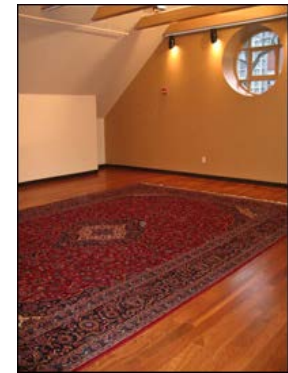
Stage Left.

The main theatre has total seating of 517; 430 seats at the orchestra level and 141 seats in the balcony. The theatre is complemented by a box office, star dressing room, with full facilities (shower, toilet, sink), two chorus rooms, with full facilities, green room, production office and show office.

The stage is 29' deep by 40' wide, with a proscenium 34' 4" wide by 21'0" high. The upstage, 8'6", is only 27' wide due to the Stage Right spiral stairway that provides the crossover down thru the green room. The spiral stairway is hidden by an up and downstage, dead hung, 7' deep black velour leg and a matching up and downstage leg is on

Load-in is at street level, off stage left. Trucks/vans (not buses or semi trucks) pull or back into the parking lot off Calder Alley, next to the stage door. There is a 4'6" x 10'0" scissor lift (capacity 3,000 pounds) at the front of the stage to raise gear up to stage level.

Also available for rent is an upper lobby / studio theatre. This space is appropriate for receptions, luncheons and dinners, meetings and smaller productions. There is a catering kitchen adjacent to this space, as well as elevator access.



Upper Lobby

RENTALS

The facility is rented each year for film, performances, lectures, meetings and receptions and family-based educational programming.

Rental Rates

Main Theatre	Full Day 1 show: Non Profit - \$1,750; For Profit - \$2,250 Full Day 2 shows or portion of day: Variable
Upstairs Lobby	\$300

Labor: The theatre requires a client to utilize the technical staff of the theatre for their event. Any expense for labor incurred by the theatre is billed to the client per the following rates:

- Lighting Designer \$25/hr, (4 hr min)
- Sound Operators \$25/hr
- Spot Operators \$20/hr
- Sound System \$400
- Film Projectionist \$30/hr
- Head Ushers \$15/hr, (4 hr min)
- Concessions \$15/hr, (4 hr min)
- Stage Crew \$20/hr, (4 hr min)
- Security \$25/hr (The State Theatre reserves the right to require security depending on the nature of the programming)
- Piano \$150 plus tuning
- Technical Director \$25/hr

While the State Theatre is available to a myriad of community organizations, requests for rental of the theatre may be denied if the proposed event presents a potential conflict to the market target of a previously scheduled event or does not meet community standards. No X rated films may be screened at the State Theatre.

PROGRAMMING

Programming at the State Theatre is a mix of presentations and promoters. The more community-based film series and family events are produced by the theatre itself. Popular music is booked through promoters. Details on program offerings divide them into community versus commercial events, with the following distinctions:

Community	Film, Musical theatre, Choral music, Variety, Theatre, Lecture, Family
Commercial	Film, Popular music, Orchestral music, Variety, Jazz music, Dance, Comedy

Including film, there were 177 performances from August 2011 to May 2012 in the State Theatre. Following are the number of events and average ticket prices by genre:

Genre	Number of Events	Average Ticket Price
Film	93	Free, \$6-\$8, \$10-\$15, \$15-\$22
Musical Theatre	12	\$15-\$22
Popular Music	15	\$10, \$25-\$30, \$22-\$28, \$49
Choral Music	1	\$6-\$10
Orchestral Music	1	\$6-\$10
Variety	2	\$6-\$10
Jazz Music	1	\$25-\$30
Theatre	38	\$16-\$18
Dance	4	\$10-\$20
Comedy	3	\$28
Lecture	1	\$6-\$10
Family	6	\$10

Student and Senior discounts are available, as well as a discount for Group Sales. In collaboration with Schlow Library, the theatre hosts "Read It and Watch It!," a program where local children read children's classics and then see the movies for free.

The State Theatre is committed to involving local non-profits in programming, sponsorships, fundraising, visibility and support and has worked with the following local community organizations:

American Red Cross Centre County	Philipsburg Oseola High School
ARC of Centre County	PILF
Boy Scouts of America	PSPCA
Bridge of Hope Centre County	PSU PRSSA Charity auction
Centre County Breast Cancer Awareness	PSU United Way
State College Area Food Bank	Radio Park PTO
Centre Region Parks and Recreation	Roland Theatre Second Mile Clinton County
Centre County Women's Resource Center	Schlow Library

Centre County Volunteers in Medicine	Second Mile Centre County
Child Development Family Council	Central Counties PSPCA (Centre Hall, PA)
Central PA Festival of the Arts	State College Chinese Alliance Church
First Night Centre County	State College Area High School
Friends School	State College Friend's School
Habitat for Humanity	The Music Academy
House of Care	PAWS
Housing Transitions	WIC (Women, Infants, Children)
Leadership Centre County	State College Area Y.M.C.A.
Make a Wish Foundation	Youth Service Bureau
Millbrook Playhouse	Big Brothers-Big Sisters Centre County
Next Stage	Big Brothers-Big Sisters Clinton County
Our Children's Centre Montessori	Family Decision Making Group
Our Lady of Victory Daycare	Stepping Stone Transitional Housing
PA Centre Orchestra	Stormbreak Youth
PA Dance Theatre	Youth Haven
Penns Valley High School	Youth and Family Services
Philipsburg Mainstreet Program	Zerby Gap Family Works

OWNERSHIP/OPERATING STRUCTURE

The State Theatre is owned by the City of State College and operated by The State Theatre Inc., a private, non-profit 501(c)(3), with a 14-member Board of Directors.

Operating committees include Finance Committee, Programming Committee, Web Site Committee, Development Committee, Special Events Advisory Committee, Membership Committee and Theatre Décor.

STAFF

The theatre employs 24 staff:

- Executive Director
- Technical Director
- Operations Manager
- Assistant Operations Manager
- Marketing Manager & Membership Director
- Accountant Administrator
- Projectionist (2)
- Lighting Designer
- Sound Assistant
- Box Office (4)
- Head Ushers (2)
- Concessions (6)
- IT
- Photographer

The staff is supplemented by volunteer ushers and a street team for promotions.

FINANCIAL INFORMATION

The annual operating budget for fiscal year 2010 was \$1,618,838. Salary expense is \$498,217.

Total revenues are \$1,305,781 and breakdown is as follows:

Ticket Sales	\$845,136
Production Income	\$263,726
Other Revenue	\$ 3,035
Contributions & Grants	\$193,844

In fiscal year 2010, there was an operating loss of \$300,000. The State is “fine-tuning its programming approach, courting community and corporate interests and maturing its fundraising efforts.”

UNIVERSITY PRESENCE and OTHER VENUES

State College is the home of Penn State University, with a student population of 86,205. A portion of the campus is located downtown. The State Theatre is occasionally used by student groups for film showings for university students only. Penn State hosts student productions at its Penn State Downtown Theatre Center, which has 192 seats.

MARKETING

The State Theatre marketing department provides the following options to help promote a renter’s event:

- Event listing on its website, with hyperlink to organization’s website
- Online ticket sales
- Event listing in the calendar distributed in the Box Office
- Event inclusion in the theatre’s regular email marketing
- Listing in the calendar section of the playbill
- A window box display for promotional posters (limited availability)
- Ability to place flyers in the Box Office

ECONOMIC IMPACT

With the rave reviews the State has received, State College is garnering press beyond the region, making it a magnet destination for patrons as far away as Harrisburg, Pittsburgh, Buffalo and Frederick. It encourages the use of the downtown restaurants, parking garages and hotels. In addition, the State creates jobs in the area and serves local charities by providing them with a venue for fundraising.



Venue Name	Avalon Theatre
Venues	900-seat theater
Location	Grand Junction, Colorado
Owner / Operator	Owned by - City of Grand Junction Operated by - Two Rivers Convention Center
Mission Statement	The mission of the Avalon Theatre is to serve as the cultural hub for Grand Junction. We strive to serve the diverse tastes of our community with a balanced mix of cultural opportunities; to provide a supportive environment for local arts organizations and a welcoming experience for audiences and to be an economic catalyst for Downtown Grand Junction.
Description	The Avalon Theatre is a downtown anchor that currently seats 900. A three-phase renovation plan includes accommodations to better support performances by the Grand Junction Symphony Orchestra, as well as a smaller film screening room.

MISSION STATEMENT

The mission of the Avalon Theatre is: *to serve as the cultural hub for Grand Junction. We strive to serve the diverse tastes of our community with a balanced mix of cultural opportunities; to provide a supportive environment for local arts organizations and a welcoming experience for audiences and to be an economic catalyst for Downtown Grand Junction.*

BACKGROUND AND HISTORY

Built for the residents of Grand Junction by local publishing giant Walter Walker, the Avalon Theatre was, and still is, one of Western Colorado's largest performing arts halls. It is located in the Downtown Shopping Park at 645 Main Street. Built in 1923, it was renovated in 1947 for film and again in the early 1990s, including restoration of the historic facade, lobby and upgrades for concerts and film presentations. The Avalon Theatre is currently in Phase I of a three-phase expansion and renovation that will result in a second, smaller film screening / rehearsal / theatre space and, ultimately, a renovated auditorium and lobby with expanded back of house and loading areas.

FACILITY

The Avalon Theatre is a 900-seat historic theater in downtown Grand Junction.

PROGRAMMING



In addition to playing first-run movies, the Avalon Theatre shows independent and foreign films. Live productions include concerts, theatrical performances and dance recitals and the theater is rented for private functions. There is a Broadway series and it is the home of performances by the Grand Junction Symphony Orchestra. The Avalon Theatre hosts 65 events per season.

The Broadway series presents four productions, each with three weekend performances. The 2012 season includes *Forever Plaid*, *Cats*, *Miss Saigon* and *Oliver!*. Single tickets are \$20, \$30 and \$40; a four-show subscription is \$100.

The Avalon also hosts “Dinner and a Movie” every Tuesday. Patrons who enjoy dinner at any Downtown Grand Junction Restaurant, and bring their receipt to the Avalon, receive two free

admissions to the movies.

OWNERSHIP/OPERATING STRUCTURE

The Avalon Theatre is owned by the City of Grand Junction and operated by the Two Rivers Convention Center, an agency of the City of Grand Junction, which is supported by a Business Improvement District tax, as well as the General Fund.

STAFF

Operated under the umbrella of the Two Rivers Convention Center, the Avalon Theatre has two full-time and four part-time staff members, which are shared between the facilities:

Full Time:

- Interim Manager
- Director of Sales and Marketing

Part Time:

- Sales & Planning Assistant
- Operations Supervisor
- Banquet Manager & Building Maintenance
- Movie Projectionist

FINANCIAL INFORMATION

The expense budget for fiscal year 2012 was \$236,000, broken down as follows:

Salaries, Wages & Benefits	\$99,035
Building	\$66,250
Operations	\$66,900
Administration	\$ 4,137

UNIVERSITY PRESENCE and OTHER VENUES

Colorado Mesa University, a liberal arts university with a student body of 9,000 is located in Grand Junction. It is the home of The Moss Performing Arts Center, which was built in 2002 to house theatre, music and dance programs. The Center includes a recital hall, an experimental

theatre, choral and instrumental rehearsal rooms, a music library, dressing rooms, offices, music practice rooms, classrooms, a costume shop, an outstanding dance studio, a scene shop and the Robinson main stage theatre.

Recital Hall: Seats 288 and hosts more than 30 events each year, including senior recitals and the Guest Artist Recital Series.

Robinson Theater: Serves as the department's main stage venue and hosts four theater productions and more than 20 music department concerts each year. This 600-seat theatre has a fly loft and a modern drama lighting system.

Mesa Experimental Theater: Also known as the MET and "Black Box", this venue seats up to 150 people and has almost an unlimited number of possible performance configurations conducive to experimental theatre performances.



Venue Name	The Babcock Building
Venues	750-seat theater, apartments and retail space
Location	Billings, Montana
Owner / Operator	Owned and Operated By – Babcock, LLC
Description	The Babcock Building (in which the Babcock Theater is housed) is owned by Babcock, LLC. Babcock, LLC consists of four stakeholders and was granted a development agreement in 2009 to redevelop and restore the historic Babcock Theater, where they will turn over the theater to the city (or the city's designated party) in 2016.

BACKGROUND AND HISTORY

A.L. Babcock purchased this site as undeveloped property in 1889 before the downtown business district had spread to the north. By 1889, a couple of homes were erected on the south portion of the block, but this north half remained open. This building succeeded the 800-seat Billings Opera House (also built by Babcock), which had its first performance in 1882, but burned down in 1906. Babcock built the new Theater Building

on the current site, replacing what had been a tennis court. In 1935, the theater interior was completely gutted by fire, but was immediately rebuilt by a well-known theater designer based in California during the 1920s and 1930s. The original building exterior was brick, accentuated with columns with floral carving. All of the original exterior has since been covered with blue metal paneling. It is best noted for once being the largest theater located between Minneapolis and Seattle.

A.L. Babcock was one of Billings' leading businessmen. He arrived in town during its founding year and established a hardware company with a partner, Babcock and Miles. In 1892, he bought out the partner, and in 1902, Babcock Hardware sold to Billings Hardware. In 1895, he founded the Yellowstone Valley Flouring Mill and it became a keystone in Billings' agricultural economy. Later on, he was founder of the Yellowstone National Bank and an organizer of the Billings Telephone Company.

The building has had only three owners in 104 years. The building has been accepted for placement on the National Register of Historic Places.

Renovation

The Babcock Building was most recently renovated after Babcock, LLC purchased it in 2008. The renovation was done in phases, addressing the apartments and retail spaces first. Then the theater itself was addressed. The renovation was financed by the owners in conjunction with the City of Billings.

FACILITY



The Babcock Building features the historic Babcock Theater, apartments and retail spaces. It is located in the center of downtown Billings and takes up one-quarter of a city block.

In addition to the 750-seat theater, there is a lobby, a small box office kiosk, a green room and dressing rooms downstairs off the stage.

A multi-use facility, there are also 14 apartments for rent and five main floor retail spaces. The apartments are currently fully occupied, along with the retail spaces. The retail tenants are Moore's Market (market/convenience center), zPizza, Billings Gallery of Fine Art, Cline Fine Art, Jimmy John Sandwiches, and Rock Creek Coffee Roasters. The 14 apartments feature studio, one and two bedroom layouts. All tenants and businesses pay rent to Babcock, LLC.

PROGRAMMING



The Babcock hosts First Friday events and is a part of the downtown ArtWalks. A rental-only facility, it will host 33 programs from August 2011 to July 2012 (12 First Fridays are included in the total). The building is used for film, popular music, poetry readings, comedy, band and orchestral music, dance and meetings.

While there are no resident companies, the Billings Symphony and Community Band do perform there.

Tickets range from free (Billings Symphony, First Fridays) to \$40 (popular music).

Details on programming offerings divide activity into community versus commercial, with the following distinctions:

Community	ArtWalk, First Fridays, Meetings, Community Band, Symphony
Commercial	Film, Popular Music, Poetry readings, Comedy, Dance

A variety of promoters rent the space, including Jade Presents, Level 1's After Dark and Toy Soldier Productions and Yellowstone Bluegrass Association. Marketing is at the discretion of the promoter/renter of the theater, but the theater does provide event listings on their website, which links to sites where people may buy tickets or directs them to businesses that are selling tickets (the Babcock does not operate a box office).

All events are considered rentals except for the First Friday events and ArtWalk events, which are community-sponsored events that use the facility for free.

OWNERSHIP/OPERATING STRUCTURE

Babcock LLC consists of 4 stakeholders who were granted a development agreement in 2009 to redevelop and restore the historic Babcock Theater. The operation of the theater will revert to the City of Billings in 2016.

UNIVERSITY PRESENCE and OTHER VENUES

There are several institutions of higher learning in Billings. These include state schools:

- Montana State University Billings (5,000)
- MSU Billings College of Technology (vocational/technical school affiliated with the school district of Billings)

And private schools:

- Rocky Mountain College (liberal arts)
- Yellowstone Baptist College (limited secular curriculum)

The main campus for MSU Billings is not located in the downtown area, however, they do have a downtown campus where some classes are held. All residences are on the main campus. Petro Theater, located in the Student Union Building, houses some 48 student theater productions annually.



Goshen Theater Feasibility Study

Appendix 4: Operating Pro Forma

**Goshen Theater
Pro Forma Operating Statement**

Goshen Theater		
OPERATING PRO FORMA		
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SUMMARY PRO FORMA	Schedule 2	Page 4
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EXPENSE SUMMARY	Schedule 4	Page 6
Theater Rental Rate Schedule	Schedule 5A	Page 7
Multi-Purpose Room Rental Rate Schedule	Schedule 5B	Page 7
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Goshen Theater
Pro Forma Operating Statement

Goshen Theater	
SCHEDULE 1: KEY ASSUMPTIONS	
PERFORMANCE SPACE ASSUMPTIONS	
Theatre	
Capacity	750
Dance / Rehearsal Hall (3rd Floor)	
Capacity	130
Social Hall (Basement)	
Capacity	244
ECONOMIC ASSUMPTIONS	
Average Annual Financial Escalation Factor (expenses)	3%
Average Biennial Financial Escalation Factor (revenues)	1.5%
Average Annual Rent Increase	2%
Average Annual Salary Escalation Factor	3%
Fringe Benefits Rate (full-time)	25%
Fringe Benefits Rate (part-time)	12%
Contingency % of Operating Expenses	5%
Annual Increase in Activity	10%
Split Percentage	15%
Box Office Handling Fee	\$0.50
Facility Fee - Non Profit	\$0.50
Facility Fee - General Public	\$1.00
BUILDING ASSUMPTIONS	
Square Footage	29,668
Occupancy Costs per Sq. Ft., calculated	\$7.65

Goshen Theater Pro Forma Operating Statement

Goshen Theater					
SCHEDULE 2: SUMMARY PRO FORMA	Year 1	Year 2	Year 3 (Base)	Year 4	Year 5
EARNED REVENUES					
Rental Income	\$160,000	\$172,000	\$184,000	\$198,000	\$213,000
Chargebacks & Cost Recovery	\$33,000	\$34,000	\$36,000	\$38,000	\$40,000
Retail (Net Revenues)	\$32,000	\$35,000	\$38,000	\$42,000	\$46,000
Box Office & Facility Fees	\$55,000	\$45,000	\$48,000	\$51,000	\$60,000
TOTAL EARNED REVENUES	\$280,000	\$286,000	\$306,000	\$329,000	\$359,000
OPERATING EXPENSES					
Compensation	\$145,000	\$150,000	\$155,000	\$160,000	\$165,000
Administrative Expenses	\$34,000	\$35,000	\$36,000	\$37,000	\$38,000
Building Operations	\$197,000	\$203,000	\$209,000	\$216,000	\$222,000
TOTAL OPERATING EXPENSES	\$376,000	\$388,000	\$400,000	\$413,000	\$425,000
OPERATING RESULT	\$(96,000)	\$(102,000)	\$(94,000)	\$(84,000)	\$(66,000)
SUPPORT & FUNDING					
Sponsorships & Events	\$50,000	\$50,800	\$51,000	\$51,600	\$51,600
TOTAL FUNDING	\$50,000	\$50,800	\$51,000	\$51,600	\$51,600
NET RESULTS	(\$46,000)	(\$51,200)	(\$43,000)	(\$32,400)	(\$14,400)
Annual Capital Improvements	(\$29,700)	(\$30,600)	(\$32,000)	(\$32,400)	(\$33,400)
(Less Contingency)	(\$20,300)	(\$20,900)	(\$22,000)	(\$22,200)	(\$23,000)
SURPLUS (DEFICIT)	\$(96,000)	\$(102,700)	\$(97,000)	\$(87,000)	\$(70,800)

**Goshen Theater
Operating Pro Forma
Revenue**

Goshen Theater						
SCHEDULE 3: REVENUE SUMMARY		Year 1	Year 2	Year 3	Year 4	Year 5
Facility Rental						
Rental Income - Theatre	Rental Income Summary	\$106,800	\$116,000	\$125,000	\$135,900	\$146,800
Rental Income - Ancillary Spaces	Rental Income Summary	\$33,000	\$35,800	\$38,300	\$41,200	\$44,300
Other Rental Income	Rental Income Summary	\$20,000	\$20,400	\$20,800	\$21,200	\$21,600
Costs Recovered from Renters	Chargebacks	\$32,700	\$34,200	\$35,900	\$37,800	\$39,900
Sub-Total, Facility Rental		\$192,500	\$206,400	\$220,000	\$236,100	\$252,600
Other Operating Revenue						
Box Office Fees	Chargebacks	\$21,100	\$22,300	\$23,800	\$25,300	\$30,100
Facility Surcharge	Chargebacks	\$34,000	\$22,300	\$23,800	\$25,300	\$30,100
Concessions, Net	Concessions	\$13,400	\$14,500	\$15,600	\$16,900	\$18,200
Catering, Net	Concessions	\$12,900	\$14,200	\$15,600	\$17,100	\$18,800
Merchandise Sales, Net	Concessions	\$5,800	\$6,400	\$7,000	\$7,700	\$8,500
Sub-Total, Other Operating Revenue		\$87,200	\$79,700	\$85,800	\$92,300	\$105,700
TOTAL OPERATING REVENUES		\$279,700	\$286,100	\$305,800	\$328,400	\$358,300
Support & Funding						
Event sponsorships		\$30,000	\$30,500	\$30,500	\$31,000	\$31,000
Special fundraising event(s), net		\$20,000	\$20,300	\$20,300	\$20,600	\$20,600
Sub-Total, Funding		\$50,000	\$50,800	\$50,800	\$51,600	\$51,600
TOTAL REVENUES		\$329,700	\$336,900	\$356,600	\$380,000	\$409,900

**Goshen Theater
Operating Pro Forma
Expenses**

Goshen Theater						
SCHEDULE 4: EXPENSE SUMMARY		Year 1	Year 2	Year 3	Year 4	Year 5
Personnel						
Staff Compensation & Benefits, FTE	Staffing	\$112,890	\$116,300	\$119,700	\$123,300	\$127,000
Compensation & Benefits, hourly	Staffing	\$32,100	\$33,400	\$35,000	\$36,500	\$38,300
<i>Sub Total, Personnel</i>		\$144,990	\$149,700	\$154,700	\$159,800	\$165,300
Marketing						
Web Site management	PH	\$12,000	\$12,400	\$12,800	\$13,200	\$13,600
<i>Sub-Total, Marketing</i>		\$12,000	\$12,400	\$12,800	\$13,200	\$13,600
Administration						
Administrative Expenses	Admin. Exp.	\$22,000	\$22,600	\$23,300	\$24,000	\$24,700
<i>Sub-Total, Administration</i>		\$22,000	\$22,600	\$23,300	\$24,000	\$24,700
Plant Operations						
Building Operations	Bldg. Ops.	\$197,200	\$203,100	\$209,200	\$215,500	\$222,000
Annual Capital Improvements	Bldg. Ops.	\$29,700	\$30,600	\$31,500	\$32,400	\$33,400
<i>Sub-Total, Plant Operations</i>		\$226,900	\$233,700	\$240,700	\$247,900	\$255,400
TOTAL OPERATING EXPENSES		\$405,890	\$418,400	\$431,500	\$444,900	\$459,000
Expense Contingency (5%)		\$20,300	\$20,900	\$21,600	\$22,200	\$23,000

**Goshen Theater
Rental Rate Schedule**

Goshen Theater													
SCHEDULE 5A: THEATER RENTAL RATE SCHEDULE	Rental Rate Code	Base		Year 1		Year 2		Year 3 (Base)		Year 4		Year 5	
		Rates		Rates		Rates		Rates		Rates		Rates	
		Weekday (Sun-Thurs)	Weekend (Fri-Sat)	Weekday (Mon-Thurs)	Weekend (Fri-Sun)	Weekday (Mon-Thurs)	Weekend (Fri-Sun)	Weekday (Mon-Thurs)	Weekend (Fri-Sun)	Weekday (Mon-Thurs)	Weekend (Fri-Sun)	Weekday (Mon-Thurs)	Weekend (Fri-Sun)
Non Profit Rate													
Performance (12 hr day)	1	\$450	\$525	\$450	\$525	\$460	\$540	\$470	\$550	\$480	\$560	\$490	\$570
Rehearsal (4 hours)	2	\$215	\$375	\$215	\$375	\$220	\$380	\$220	\$390	\$220	\$400	\$220	\$410
General Public													
Performance (12 hr day)*	3	\$750	\$900	\$750	\$900	\$770	\$920	\$790	\$940	\$810	\$960	\$830	\$980
Rehearsal (4 hours)	4	\$525	\$775	\$525	\$775	\$540	\$790	\$550	\$810	\$560	\$830	\$570	\$850
Weekly (performance extra)	5		\$1,000	\$0	\$1,000	\$0	\$1,020	\$0	\$1,040	\$0	\$1,060	\$0	\$1,080

* or 15% of sales

Goshen Theater													
SCHEDULE 5B: ANCILLARY ROOMS RENTAL RATE SCHEDULE	Rental Rate Code	Base		Year 1		Year 2		Year 3 (Base)		Year 4		Year 5	
		Rates		Rates		Rates		Rates		Rates		Rates	
		Weekday (Sun-Thurs)	Weekend (Fri-Sat)	Weekday (Sun-Thurs)	Weekend (Fri-Sat)	Weekday (Mon-Thurs)	Weekend (Fri-Sun)	Weekday (Mon-Thurs)	Weekend (Fri-Sun)	Weekday (Mon-Thurs)	Weekend (Fri-Sun)	Weekday (Mon-Thurs)	Weekend (Fri-Sun)
		Non Profit Rate											
Dance/Rehearsal Hall	6	\$75	\$100	\$75	\$100	\$80	\$100	\$80	\$100	\$80	\$100	\$80	\$100
Social Hall	7	\$200	\$300	\$200	\$300	\$200	\$310	\$200	\$320	\$200	\$330	\$200	\$340
General Public													
Dance/Rehearsal Hall	8	\$150	\$200	\$150	\$200	\$150	\$200	\$150	\$200	\$150	\$200	\$150	\$200
Social Hall	9	\$250	\$350	\$250	\$350	\$260	\$360	\$270	\$370	\$280	\$380	\$290	\$390

Goshen Theater Utilization Summary

Goshen Theater										
SCHEDULE 6: UTILIZATION SUMMARY										
	Year 1		Year 2		Year 3 (Base)		Year 4		Year 5	
	Utilization		Utilization		Utilization		Utilization		Utilization	
	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
Theater Rental										
Non Profit										
Performance (12 hr day)	0	29	0	29	0	29	0	29	0	29
Rehearsal (4 hours)	24	0	24	0	24	0	24	0	24	0
General Public										
Performance (12 hr day)	23	34	25	37	28	41	31	45	34	50
Rehearsal (4 hours)	0	0	0	0	0	0	0	0	0	0
Weekly	17		17		17		17		17	
Dance/Rehearsal Hall										
Non-Profit Rate	120	0	120	0	120	0	120	0	120	0
General Public	0	30	0	30	0	30	0	30	0	30
Social Hall										
Non-Profit Rate	20	0	22	0	24	0	27	0	29	0
General Public	0	40	0	44	0	48	0	53	0	59

Goshen Theater Rental Income Summary

Goshen Theater										
SCHEDULE 7: RENTAL INCOME SUMMARY										
	Year 1		Year 2		Year 3 (Base)		Year 4		Year 5	
	Utilization		Utilization		Utilization		Utilization		Utilization	
	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
Theater Rental										
Non Profit										
Performance (12 hr day)	\$0	\$15,225	\$0	\$15,660	\$0	\$15,950	\$0	\$16,240	\$0	\$16,530
Rehearsal (4 hours)	\$5,160	\$0	\$5,280	\$0	\$5,280	\$0	\$5,280	\$0	\$5,280	\$0
General Public										
Performance (12 hr day)	\$17,250	\$52,185	\$19,481	\$58,265	\$21,986	\$64,091	\$24,797	\$71,558	\$27,950	\$78,713
Rehearsal (4 hours)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Weekly	\$17,000		\$17,340		\$17,680		\$18,020		\$18,360	
Dance/Rehearsal Hall										
Non-Profit Rate	\$9,000	\$0	\$9,600	\$0	\$9,600	\$0	\$9,600	\$0	\$9,600	\$0
General Public	\$0	\$6,000	\$0	\$6,000	\$0	\$6,000	\$0	\$6,000	\$0	\$6,000
Social Hall										
Non-Profit Rate	\$4,000	\$0	\$4,400	\$0	\$4,840	\$0	\$5,324	\$0	\$5,856	\$0
General Public	\$0	\$14,000	\$0	\$15,840	\$0	\$17,908	\$0	\$20,231	\$0	\$22,840

**Goshen Theater
Utilization Detail**

Goshen Theater	FIVE-YEAR UTILIZATION SUMMARY														
	Year 1			Year 2			Year 3			Year 4			Year 5		
SCHEDULE 8: UTILIZATION PROJECTIONS	Uses	Rental Rate	Rental Charge	Uses	Rental Rate	Rental Charge	Uses	Rental Rate	Rental Charge	Uses	Rental Rate	Rental Charge	Uses	Rental Rate	Rental Charge
Theater Use															
Concerts - Weekday	20	\$750	\$15,000	22	\$770	\$16,940	24	\$790	\$19,118	27	\$810	\$21,562	29	\$830	\$24,304
Concerts - Weekend	25	\$1,650	\$41,250	28	\$1,675	\$46,056	30	\$1,675	\$50,661	33	\$1,700	\$56,563	37	\$1,700	\$62,220
Theater - Weeks	13	\$1,000	\$13,000	13	\$1,020	\$13,260	13	\$1,040	\$13,520	13	\$1,060	\$13,780	13	\$1,080	\$14,040
Theater - Weekday Perf	0	\$450	\$0	0	\$460	\$0	0	\$470	\$0	0	\$480	\$0	0	\$490	\$0
Theater - Weekend Perf	21	\$525	\$11,025	21	\$540	\$11,340	21	\$550	\$11,550	21	\$560	\$11,760	21	\$570	\$11,970
Dance - Weeks	4	\$1,000	\$4,000	4	\$1,020	\$4,080	4	\$1,040	\$4,160	4	\$1,060	\$4,240	4	\$1,080	\$4,320
Dance - Weekday Perf	0	\$450	\$0	0	\$460	\$0	0	\$470	\$0	0	\$480	\$0	0	\$490	\$0
Dance - Weekend Perf	8	\$525	\$4,200	8	\$540	\$4,320	8	\$550	\$4,400	8	\$560	\$4,480	8	\$570	\$4,560
First Fridays	12	\$215	\$2,580	12	\$220	\$2,640	12	\$220	\$2,640	12	\$220	\$2,640	12	\$220	\$2,640
Film	12	\$215	\$2,580	12	\$220	\$2,640	12	\$220	\$2,640	12	\$220	\$2,640	12	\$220	\$2,640
Other Public Events - Weekday	3	\$750	\$2,250	3	\$770	\$2,541	4	\$790	\$2,868	4	\$810	\$3,234	4	\$830	\$3,646
Other Public Events - Weekend	9	\$1,215	\$10,935	10	\$1,233	\$12,209	11	\$1,233	\$13,430	12	\$1,252	\$14,994	13	\$1,252	\$16,494
TOTAL THEATER	195		\$106,820	201		\$116,026	207		\$124,987	214		\$135,894	221		\$146,833
Ancillary Spaces															
Dance Rehearsal Hall															
Non Profit - Weekday	120	\$75	\$9,000	120	\$80	\$9,600	120	\$80	\$9,600	120	\$80	\$9,600	120	\$80	\$9,600
Non Profit - Weekend	0	\$100	\$0	0	\$100	\$0	0	\$100	\$0	0	\$100	\$0	0	\$100	\$0
General - Weekday		\$150	\$0	0	\$150	\$0	0	\$150	\$0	0	\$150	\$0	0	\$150	\$0
General - Weekend	30	\$200	\$6,000	30	\$200	\$6,000	30	\$200	\$6,000	30	\$200	\$6,000	30	\$200	\$6,000
Social Hall															
Non Profit - Weekday	20	\$200	\$4,000	22	\$200	\$4,400	24	\$200	\$4,840	27	\$200	\$5,324	29	\$200	\$5,856
Non Profit - Weekend		\$300	\$0	0	\$310	\$0	0	\$320	\$0	0	\$330	\$0	0	\$340	\$0
General - Weekday		\$250	\$0	0	\$260	\$0	0	\$270	\$0	0	\$280	\$0	0	\$290	\$0
General - Weekend	40	\$350	\$14,000	44	\$360	\$15,840	48	\$370	\$17,908	53	\$380	\$20,231	59	\$390	\$22,840
TOTAL ANCILLARY SPACES	210		\$33,000	216		\$35,840	223		\$38,348	230		\$41,155	238		\$44,296
Total Public Events (Theater)	110			116			122			129			136		
Hall Use Days	405		\$139,820	417		\$151,866	430		\$163,335	444		\$177,049	459		\$191,129

**Goshen Theater
Utilization Detail**

Goshen Theater			FIVE-YEAR UTILIZATION SUMMARY														
			Year 1			Year 2			Year 3			Year 4			Year 5		
SCHEDULE 9: ATTENDANCE PROJECTIONS	Avg. Ticket Price	Avg. % Sold	Adjusted Avg. Ticket Price	Projected Attendance	Projected Ticket Sales	Adjusted Avg. Ticket Price	Projected Attendance	Projected Ticket Sales	Adjusted Avg. Ticket Price	Projected Attendance	Projected Ticket Sales	Adjusted Avg. Ticket Price	Projected Attendance	Projected Ticket Sales	Adjusted Avg. Ticket Price	Projected Attendance	Projected Ticket Sales
Concerts - Weekday	\$12	47%	\$12.00	7,000	\$84,000	\$12.18	7,700	\$93,786	\$12.18	8,470	\$103,165	\$12.36	9,317	\$115,183	\$12.36	10,249	\$126,702
Concerts - Weekend	\$20	73%	\$20.00	13,750	\$275,000	\$20.30	15,125	\$307,038	\$20.30	16,638	\$337,741	\$20.60	18,301	\$377,088	\$20.60	20,131	\$414,797
Theater - Weekday Perf			\$0.00	-	\$0	\$0.00	-	\$0	\$0.00	-	\$0	\$0.00	-	\$0	\$0.00	-	\$0
Theater - Weekend Perf	\$14	68%	\$14.00	10,750	\$150,500	\$14.21	10,750	\$152,758	\$14.21	10,750	\$152,758	\$14.42	10,750	\$155,049	\$14.42	10,750	\$155,049
Dance- Weekday Perf			\$0.00	-	\$0	\$0.00	-	\$0	\$0.00	-	\$0	\$0.00	-	\$0	\$0.00	-	\$0
Dance - Weekend Perf	\$10	67%	\$10.00	4,000	\$40,000	\$10.15	4,000	\$40,600	\$10.15	4,000	\$40,600	\$10.30	4,000	\$41,209	\$10.30	4,000	\$41,209
First Fridays	\$0	30%		2,700			2,700			2,700			2,700			2,700	
Film	\$8	17%		1,500			1,500			1,500			1,500			1,500	
Other Public Events - Weekday	\$12	47%	\$12.00	1,050	\$12,600	\$12.18	1,155	\$14,068	\$12.18	1,271	\$15,475	\$12.36	1,398	\$17,277	\$12.36	1,537	\$19,005
Other Public Events - Weekend	\$18	60%	\$18.00	4,050	\$72,900	\$18.27	4,455	\$81,393	\$18.27	4,901	\$89,532	\$18.54	5,391	\$99,963	\$18.54	5,930	\$109,959
Total				44,800	\$635,000		47,385	\$689,642		50,229	\$739,270		53,356	\$805,769		56,797	\$866,721

**Goshen Theater
Box Office Revenue**

Goshen Theater															
SCHEDULE 10: BOX OFFICE CHARGES															
	Year 1			Year 2			Base Year			Year 4			Year 5		
	# of Events	Facility Fee	Ticket Handling Fee	# of Events	Facility Fee	Ticket Handling Fee	# of Events	Facility Fee	Ticket Handling Fee	# of Events	Facility Fee	Ticket Handling Fee	# of Events	Facility Fee	Ticket Handling Fee
Popular Music	45	\$20,750	\$10,375	50	\$22,825	\$11,413	54	\$25,108	\$12,554	60	\$27,618	\$13,809	66	\$30,380	\$15,190
Theater	21	\$5,375	\$5,375	21	\$5,375	\$5,375	21	\$5,375	\$5,375	21	\$5,375	\$5,375	21	\$5,375	\$10,066
Dance	8	\$2,000	\$2,000	8	\$2,000	\$2,000	8	\$2,000	\$2,000	8	\$2,000	\$2,000	8	\$2,000	\$2,000
First Fridays	12	\$-	\$-	12	\$-	\$-	12	\$-	\$-	12	\$-	\$-	12	\$-	\$-
Film	12	\$750	\$750	12	\$750	\$750	12	\$750	\$750	12	\$750	\$750	12	\$750	\$750
Other Public Events	12	\$5,100	\$2,550	13	\$5,610	\$2,805	15	\$6,171	\$3,086	16	\$6,788	\$3,394	18	\$7,467	\$2,100
Subtotal	110	\$33,975	\$21,050	116	\$36,560	\$22,343	122	\$39,404	\$23,764	129	\$42,531	\$25,328	136	\$45,972	\$30,106
TOTAL, SURCHARGES			\$55,025			\$58,903			\$63,168			\$67,860			\$76,078

**Goshen Theater
Other Revenue**

Goshen Theater												
SCHEDULE 11: HOUSE FEES & CHARGEBACKS												
Venue Charges	Transaction Average	Capture Rate	Year 1		Year 2		Year 3 (Base)		Year 4		Year 5	
			# Events	Total	# Events	Total	# Events	Total	# Events	Total	# Events	Total
<u>Custodial Fees</u>												
Theater	\$150.00	75%	110	\$12,400	116	\$13,000	122	\$13,700	129	\$14,500	136	\$15,400
Dance/Rehearsal Hall	\$25.00	50%	150	\$11,300	150	\$11,300	150	\$11,300	150	\$11,300	150	\$11,300
Social Hall	\$75.00	100%	60	\$9,000	66	\$9,900	73	\$10,900	80	\$12,000	88	\$13,200
			Total Chargebacks		\$32,700		\$34,200		\$35,900		\$37,800	

**Goshen Theater
Concessions Catering Revenue**

Goshen Theater											
SCHEDULE 12: CONCESSIONS & CATERING											
Venue Charges	Transaction Average	Capture Rate	Year 3 (Base)			Year 4			Year 5		
			Tickets	Gross Sales	Contribution	Tickets	Gross Sales	Contribution	Tickets	Gross Sales	Contribution
Concessions											
<u>Concerts & Other Public Events</u>											
Average Transaction	\$4.00	50%	31,279	\$62,600	\$12,500	34,406	\$68,800	\$13,800	37,847	\$75,700	\$15,100
Contribution Margin		20%									
<u>Theater & Dance</u>											
Average Transaction	\$2.00	35%	14,750	\$10,300	\$2,100	14,750	\$10,300	\$2,100	14,750	\$10,300	\$2,100
Contribution Margin		20%									
<u>First Fridays & Film</u>											
Average Transaction	\$3.00	40%	4,200	\$5,000	\$1,000	4,200	\$5,000	\$1,000	4,200	\$5,000	\$1,000
Contribution Margin		20%									
Merchandise											
Average Transaction	\$10.00	15%	31,279	\$46,900	\$7,000	34,406	\$51,600	\$7,700	37,847	\$56,800	\$8,500
Contribution Margin		15%									
Catering											
Banquet											
		Average Attendance									
Per Plate Average	\$25.00	80%	2,126	\$53,100	\$6,400	2,338	\$58,500	\$7,000	2,572	\$64,300	\$7,700
Number of Events (%)		15%									
Total Commission		12%									
Receptions											
		Average Attendance									
Per Guest Average	\$12.00	80%	6,377	\$76,500	\$9,200	7,015	\$84,200	\$10,100	7,716	\$92,600	\$11,100
Number of Events (%)		45%									
Total Commission		12%									
Total Concessions & Catering					\$38,200			\$41,700			\$45,500

**Goshen Theater
Operating Pro Forma
Building Operations Expense**

Goshen Theater		
SCHEDULE 13: BUILDING OPERATIONS EXPENSE BASIS	Total	Basis
Utilities (Gas, Electric, Water, Sewer)	\$51,900	\$ 1.75
Regular Cleaning & Maintenance	\$80,100	\$ 2.70
Insurance	\$14,800	\$ 0.50
Security	\$5,900	\$ 0.20
General Administration	\$44,500	\$ 1.50
Annual Capital Improvements	\$29,700	\$ 1.00
Total	\$226,900	
<i>Per Square Foot:</i>	<i>\$7.65</i>	

**Goshen Theater
Operating Pro Forma
Administrative Expense**

Goshen Theater								
SCHEDULE 14: ADMINISTRATIVE EXPENSE SUMMARY	Base Year	Annual Escalation	Year 1	Year 2	Year 3 (Base)	Year 4	Year 5	
	Overhead							
	Telephone - (based on headcount)	\$ 5,250	3%	\$ 5,250	\$5,400	\$5,600	\$5,800	\$6,000
	Telephone - Maintenance/Equipment	\$ 5,000	3%	\$ 5,000	\$5,200	\$5,400	\$5,600	\$5,800
	Postage & Mailing - Gen'l	\$ 900	3%	\$ 900	\$900	\$900	\$900	\$900
	Printing & Copying, General	\$ 2,500	3%	\$ 2,500	\$2,600	\$2,700	\$2,800	\$2,900
	Travel, Meetings, Mileage	\$ 300	3%	\$ 300	\$300	\$300	\$300	\$300
	Bank Charges	\$ 1,200	3%	\$ 1,200	\$1,200	\$1,200	\$1,200	\$1,200
	Licenses/Fees/Permits	\$ 2,500	3%	\$ 2,500	\$2,600	\$2,700	\$2,800	\$2,900
Office Supplies (based on headcount)	\$ 4,200	3%	\$ 4,200	\$4,300	\$4,400	\$4,500	\$4,600	
Professional Development/Recruitment	\$ 120	3%	\$ 120	\$100	\$100	\$100	\$100	
Total	\$ 21,970		\$ 21,970	\$ 22,600	\$ 23,300	\$ 24,000	\$ 24,700	

Goshen Theater Staffing Projections

Goshen Theater					
SCHEDULE 15: STAFFING AND COMPENSATION	Year 1	Year 2	Year 3 (Base)	Year 4	Year 5
Director	\$62,990	\$64,900	\$66,800	\$68,800	\$70,900
Production Manager	\$49,900	\$51,400	\$52,900	\$54,500	\$56,100
House Manager (<i>hourly</i>)	\$8,200	\$8,600	\$9,100	\$9,600	\$10,200
Box Office (<i>hourly</i>)	\$11,900	\$12,300	\$12,700	\$13,100	\$13,500
Custodian (<i>part-time</i>)	\$12,000	\$12,500	\$13,200	\$13,800	\$14,600
TOTAL STAFFING	\$144,990	\$149,700	\$154,700	\$159,800	\$165,300

History

On November 5, 1905 the official dedication of the theater took place. The event was attended by Governor Frank Hanly and the Indiana Attorney General. Prominent citizens from all over Southern Michigan and Northern Indiana reserved seats. At 7:30 PM the doors opened and 11 ushers escorted delighted ticket-holders into the lavish theater which featured green and ivory decor with gold leaf trim, red oak and mahogany. Governor Hanly gave the welcoming address and Richard Mansfield a famous actor of the time officially dedicated the Jefferson Theater. The Goshen News-Times reported that in his speech, the Governor noted that 'Indiana has many splendid cities, many splendid communities and many splendid buildings, but no city the size of Goshen have so splendid a playhouse.'

On December 18, 1906 tragedy struck the magnificent Jefferson Theater. A fire began in the basement of the Stiver and Smith Furniture Store. Despite the best efforts of the Goshen and surrounding fire departments, the flames eventually consumed the building. The next day, residents learned that the Jefferson had been completely destroyed.

Subsequent to the fire, Patton & Miller Architects, also from Chicago, Illinois were hired to rebuild the theater. On October 10, 1907 the rebuilt Jefferson celebrated its return, opening to another packed crowd of dignitaries and featuring a performance by one of the top actresses and comedienne of the day, Marie Cahill. The Jefferson was off and running in what would be a rich era in its history. For the next several years top notch theatrical troupes made Goshen a stop on their way between New York and Chicago, treating locals to first-rate performances by some of the top actors and actresses of the time. During the off-season the Jefferson remained open, showing silent movies and hosting political and community events.

In 1948 the Jefferson was remodeled with new seats and a new, V-shaped marquee. It was during this installation the theater was re-named "The Goshen Theater."

Existing Conditions

The theater located at 216 Main Street encompasses approximately 10,660 square feet. The second and third floors are approximately 3,250 square foot each. At the street level the theater's lobby extends to the street and is marked by a Marquee. The lobby is flanked on either side by commercial storefronts. Each of the storefronts connects to the theater lobby through passage doors. In between the South commercial space and the lobby is the only access to the upper commercial floors on the theater side of the building. The access to the two floors is via an exterior door up a common staircase. At the first landing you arrive at the second floor with the rooms all accessed off of the common corridor.



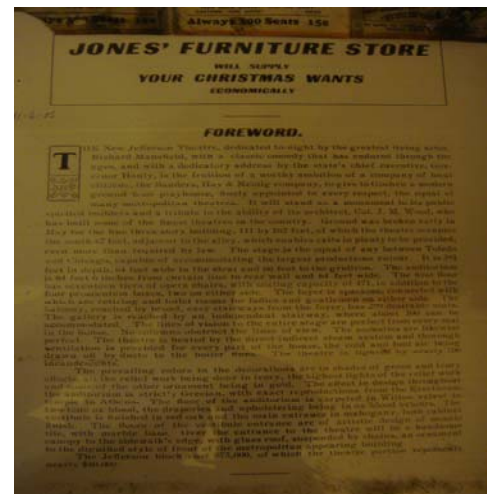
Historic Postcard (post fire)



Historic Postcard (post fire)



Historic Photo (fire)



A second staircase takes you up to the third floor which arrives directly in the multi-purpose space. The building is a masonry bearing structure with heavy timber wood trusses spanning from north to south. The roof is primarily made up of wood plank construction.

Historical Plans (partial set) dated May 11, 1907 are included in the Appendix of this report.

Architectural General Approach

A building with the storied past of this one usually shows its age through space modifications and worn edges. This building is no different. The general condition of the building is good but some spaces suffered from the major modifications related to installation of mechanical systems and when the film projectors were installed. Other secondary spaces were reconfigured and were less invasive on the overall building.

The goal of the project is to restore the exterior of the theater, allow for expansion of the public areas to accommodate current patron expectations, and rehabilitate the auditorium and stage to support the Owner's intended programming. The details of which are further explained in this section. All of the recommendations are considered "wish list" items and are without priority. The prioritization of the recommendations will depend on the Owner's final decisions, the ability to fund the renovations and meeting the Secretary of the Interiors Standards for building rehabilitation.

Exterior – West Façade (Primary)

The building that houses the theater is made up of two separated "buildings" that share a common façade. The theater and the flanking commercial retail spaces make up approximately sixty percent of the façade and the adjacent Menno Travel on the interior. Most of the façade of the building reflects the 1907 design except for the first floor commercial areas. The façade is veneered with contemporary field stone below the storefront cornice from the South corner of the building to the beginning of the Menno Travel portion of the building. The small areas from the Menno Travel building to the North corner are original stone and storefront all of which is similar to the original design. All of the storefronts and entries on the primary façade are contemporary aluminum style.

At the second level, the building changes to a standard face brick separated from the lower portion by a stone cornice. A major distinction between the two buildings is identified by the window pattern. The theater side is characterized by a series of punched openings filled with non-operable windows with a transom above.



West facade



Marquee



Marquee (night)



South facade

These were once all operable one over one windows. Above the Menno Travel space, the windows change to a wide continuous glazed area. This was changed during the reconstruction of the building after 1906. The sill of the windows is the separating cornice, and none have a decorative lintel. The third floor of the façade is again separated by a cornice which also acts as the sill for the windows. At this level the windows are more detailed with half round tops of stone in a keystone pattern. Also at this level stone is introduced in a stripped pattern starting at the spring of the arched windows. The top of the building is capped with a decorative dentil styled stone cornice and corbelled parapet and stone coping.

Recommendation for West Façade (Primary)

The second and third levels of the building brick and stone façade are in good condition. It is recommended that the upper level brick and stone be cleaned by a non chemical process. Once cleaned the vertical and skyward facing stone joints should be pointed and sealed. The project should allow for 20% of the brick to be pointed, with a mortar to match the color and density of the existing mortar. On the West elevation there are sixteen window openings (punched) and one continuous glazed unit above the storefront level. Twelve of the windows have been replaced with a single picture style while the remaining four appear to be original to the building. The twelve windows that were replaced would remain and only receive simple repair and paint. The four original windows above the Menno Travel storefront at the third floor would require removal to repair the sashes and frames, and install insulated glass within the existing profile of the window.

The veneered “field” stone from the south corner to the Menno Travel section of the building should be removed. It is expected that the removal of the veneer will severely damage any underlying stone from the original building. Care should be taken to save any and all possible underlying stone; however, it should be assumed all of the stone will be replaced with matching color and size to replicate the original design.

The knee walls below the aluminum storefront were originally panelized. In addition, the storefronts had transom above the door and window. These two areas will be returned to this original configuration.

It is the intent to retain the existing Marquee. This will require further exploration to confirm the structural integrity of the support structure. At this time an allowance for some repair of the substructure should be identified. In addition to the substructure the marquee will require general repair to the neon, lights behind the lettering and running lights.



South façade base detail



South façade window



South façade door

Exterior – South Façade (Secondary)

The South elevation (secondary façade) of the building is characterized by a series of masonry bays. Each of the first three bays has windows at each level. Each of the windows is arched top with stone sills. The windows are a variety of styles some openings have been filled with brick while others are wood panels. Some of this was related to the space within the building above grade. Below grade the windows were probably filled in to allow for the road to be paved. The bottom of the building masonry steps out to meet the alley and steps back to create the bays at approximately three feet. This corbelling also occurs just below the window line and comes out to create the sill which is capped in stone. Each bay resolves at the top of the building with corbelled masonry which is capped in stone.

Recommendation for South Façade (Secondary)

The masonry along the lower walls of the south façade is in the poorest condition. The stepped detail at the base of the masonry allows water to stand and work its way in to the joints. Additionally the use of salt on the alley is deteriorating the face brick. It is recommended that this practice be stopped to control the deterioration of the brick. The brick under each window sill also shows signs of mortar washout along with the joints at the window header.

The vertical and skyward facing stone joints should be pointed and sealed. The project should allow for 50 percent of the brick to be pointed, with a mortar to match the color and density of the existing mortar. The alley is crowned in the middle shedding water directly towards the building.

To control the water infiltration into the basement of the building, the alley pavement must be reworked. It is recommended to reform the alley to allow the water to run in the center and out to the main roads for collection or add drains in the center. Some of the windows and doors have been replaced of the years. Some windows have been in-filled with either masonry or wood to allow for the building to utilize the space within the building. It is recommended to replace the wood in-fill for five of the openings to ensure a weather tight system. Two windows that were not replaced should be repaired and new insulating or laminated glass should be installed. All of the doors along the alley should be replaced to ensure proper function and door seal.

The two fire escapes along the alley should also be completely replaced with stairs to grade.

Exterior – East Façade

The East façade or rear of the building continues the details of the South façade but has few windows most of which have been covered over.



East façade



East façade

This side of the building is mostly related to delivery and service. Many of the building mechanical units and utility services enter the building from this side.

Recommendation for East Façade (Rear)

The same issues occur at the lower three feet of the building, where the stepped masonry coursing is in need of repair. This elevation is the most damaged by water. It is estimated that 50% of the lower three feet of the wall should be rebuilt with the remaining pointed. Also to control water into the basement all of the access panels into abandon coal rooms and fuel oil should be removed and filled in. The upper portions of the façade related to the Menno Travel space have windows and doors that are either filled or boarded over to control air infiltration and damage. There are also two levels of fire escapes from the third and second floors from the Menno Travel side of the building. When the upper areas of the Menno Travel side of the building are reopened, these fire escapes will require replacement. The doors and windows should be repaired or replaced. Neither of these items is recommended at this time.

Exterior – Roof

The current roof was installed within the last ten years. No recommendation other than maintenance is suggested at this time. Any work required to penetrate the roof membrane would require appropriate details to maintain integrity of the surface.

Exterior – North Façade

The North façade of the building was originally designed as a common wall between zero lot-line buildings. However, the adjacent building was not but the full depth of the Goshen theater. This left a large portion of the façade exposed. This side of the building is unadorned and built with a simple common brick has a few windows openings and is devoid of decorative detail.

Recommendation for North Façade (Common Wall)

Although this façade is the common wall between two buildings, the condition of the brick along the lower portion of the wall is poor. The major concern is the water infiltration that has occurred over time. The mortar is washing out of the joints creating a pathway for water. It is recommended to point approximately the lower 24 inches of the building and around the east entry door. The upper windows are covered over for protection. These should remain in place until renovation of the upper floor is considered.



North façade (East entry)



Main Lobby



Main Lobby

First Floor – Lobby and Storefronts

You entry into the theater is through a pair of aluminum storefront doors on either side of the abandon ticket booth. Once you arrive in the theater lobby, the major characteristics are the pressed metal arched ceiling the lighting fixtures and entry doors in to the auditorium. Also within the lobby is a small concession counter with doorways leading into the adjacent North and South commercial spaces. The concession counter made of plywood and profiled molding seems to be made of contemporary materials. The area where the counter now occupies was enclosed and noted as the box office in historic plans. The side walls of the lobby are painted with a profiled decorative molding just above the doors openings and a painted profiled base. The space is defined by a flat ceiling at the front of the lobby and transitions to series of arches as you move towards the auditorium entry.

The lobby is small relative to the 750 seat capacity of the auditorium. The concessions counter also reduces the area for patrons to wait during a preshow or intermission. The main toilets for the theater are located in the adjacent commercial space. The men's toilet room is accessed from the lobby and the women's is accessed through the auditorium space. The total water closet fixture count of three (one for male and two for female) is below the required amount to meet today's code standards. By today's standards the total water closet fixture count at minimum should be nine (three for men and 6 for women for a facility of this seating capacity. However, theaters have a need for a higher water closet fixture count do to the short show intermissions and quantity of people needing to utilize the facility. Additionally some attempts have been made to provide accessibility to these water closets but this access needs more improvement.

The adjacent south commercial space is currently utilized as the business office for the theater. It is accessed from both the street and the lobby. This space has been changed many times over the years and does not reflect any major decorative details from the period of significance.

The North storefront can also be accessed through a doorway within the theater lobby. This is currently used by the theater during religious services for young children. The space has been changed many times over the years and does not contain any character defining details within the space other than the window and door to the street.

From this floor you can also access the upper levels through the staircase. The staircase connects to the lobby via a doorway in the entry vestibule. It can also be accessed from the exterior. The second and third floors are not ADA accessible at this time.



South Storefront



North Storefront



Historic Photo

Recommendation for First Floor – Lobby and Storefronts

The theater lacks the necessary patron amenities to support the types of programming that they desire to offer. The biggest deficiency is the toilets for patrons. The recommendation is to develop these services into the rear portion of the North commercial storefront. The expansion would include new toilets for both men and women that are ADA compliant and at a quantity to support the capacity of the theater. These would be accessed through an opening in the wall between the two spaces. The lack of space within the lobby is also of concern. To remedy this the recommendation is to remove the concessions counter that is within the main lobby and relocate this to the rear of the

North storefront commercial space and provide an opening with a counter from the storefront to the lobby. With the commercial space and South storefront already connected, we are recommending the storefront to be redeveloped to act as an extension of the current lobby for patron overflow and other pre and post show events.

To increase the accessibility to the building on the upper floors an elevator with a 2500lb. capacity is recommended. The location is within the North storefront at the common wall between the Menno Travel side and the theater side. This will allow for both parts of the building to utilize the elevator. The elevator will go to the basement and all the upper floors within each side of the building. These areas are detail in the conceptual plans.

Auditorium/Balcony and Stage

The auditorium is a proscenium end stage configuration with seating at the orchestra level divided into three seating sections. The seating sections are accessed via two main aisles and two side aisles. The overall seating capacity is 750 with approximately 450 at the orchestra level and the remainder in the balcony. A third balcony once existed but has been completely removed.

The main auditorium volume is characterized by high ceiling broken into three section defined by ceiling beams. The rear section is higher and panelized.

The proscenium is a large double arched opening with ornate detail at the banding and cornice. Both arches and the face of the balcony are encrusted with lights. These lights along with the lines of lights that are on the ceiling beams illuminate the space. The side walls are a series of framed fabric panels surrounded by painted plaster. Each frame is surrounded in plaster detail. The underside of the balcony is mostly flat plaster with a small raised frame detail along the perimeter.



Historic Photo (audience chamber)



Rear Audience Chamber



Detail



Proscenium

The balcony has not been utilized for seating because of the current condition of the wood flooring and the seats. The balcony is accessed via two stairs located in the rear and to either side of the audience chamber. The balcony seating can accommodate approximately 300 patrons. Some of the seating has been removed to allow for a technical lighting and sound control position.

The stage is adequately sized for the programming anticipated. The current rigging system is hemp style with a wood grid at 60 feet above the stage. The current stage has an extension built beyond the plaster line and is stepped down from the level of the main stage. This extension is built partially over the original orchestra pit. The orchestra pit is accessed by small stairs that flank the stage. The only access below the stage is from the stage. The basement houses the mechanical rooms and a few old dressing rooms.

Recommendation for the Theater/Balcony and Stage

The audience chamber is generally in good condition. The seating capacity if all seats were usable would meet the needs of the program. However, the location for wheelchairs is not ideal. We are recommending the orchestra seats to be refurbished and at the rear of the seating area spaces should be left to allow for wheelchair locations. Additionally, the floor at the center section of the seating should be reinforced from below to reduce the spring in the floor. With the program variety the floor under the seats and the aisles could be painted or carpeted. At this time we are recommending the aisles be carpeted and the area under the seats be painted. This would also occur at the balcony; however the seat would be new based on the condition of many of the seats at that level.

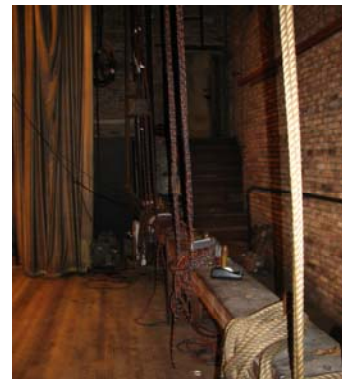
The side walls and ceiling of the chamber require minor to medium level repair. Most of the side wall is covered in fabric panel; this should be replicated and replaced with sound insulation behind to control the acoustics of the room. It is not known if the colors in the space are original, this should be further investigated to confirm historic color palette. At the time of this report it is assumed the colors are not original. The remainder of the space should be painted.

The final colors would be reviewed with the historic preservation office. All system upgrades are noted in the engineering narratives.

Many programs are anticipated for the theater. To accommodate their needs the stage floor should be replaced with a working stage floor. This would include wood sleeper with resilient pads underneath spaced between 16 and 24 inches. This is covered by two layers of plywood and cover by painted double tempered hardboard. The remainder of the upgrades is noted in the theatrical narrative.



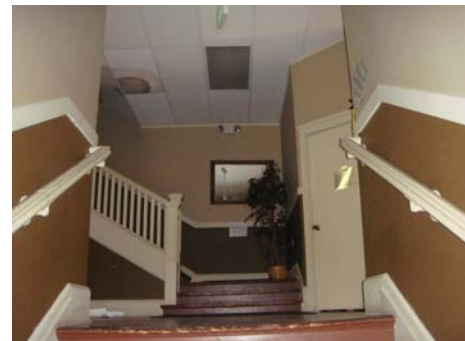
Balcony



Rear of Stage



Area below Stage



Stair to Second floor

A major deficiency in the theater is accessible actor or talent support areas. These are the spaces where talent prepares for a show and gathers between acts or intermissions. To provide this much needed spaces we are recommending expanding into the rear of the adjacent Menno Travel side of the building. This would be accessed via a door on stage right. The space would include two dressing rooms, a green room, toilets and shower, and production manger office at the stage level. This expansion would also happen at the basement level. This area would include two larger chorus rooms, toilets and shower. These areas are detail in the conceptual plans.

Second and Third floors with Recommendations

The second and third floors of the commercial space are accessed primarily from the East street entry. The second floor is currently used for rental office space and support for dance classes. The original plans show the space at the second floor subdivided into six offices. Over time the floor plan has been modified and reconfigured. The stair to the third floor was moved to accommodate the theaters projection room located at the third level. Other modifications included combining office to create one large conference room. More than 50 percent of the floor has been affected by these changes. However, some detail remains within each of the current offices in the cornice detail and interior windows.

This floor plan will be adjusted to accommodate the addition of the elevator in the northeast corner. We will also reconnect to the once abandoned stair to allow for better egress from this and the third floor. The remainder of the floor will undergo minor renovation limited to painting and plaster repair. The use of the space will remain as office space rental and as the theater administration needs grow this will provide much needed office space.

The third floor is a large multi-use assembly space. The space is subdivided to allow for a warming catering kitchen and general storage area used to support the various functions. Also at this level are a small toilet room and the projection booth for the theater.

The primary character of the space is the size. In the original drawings the space was noted to be a lodge hall with an adjacent ante room. We believe the multipurpose room is within the original lodge hall space. It was not confirmed but the original metal ceiling may still survive above the contemporary acoustic tile ceiling.

At this level the intent is to keep the space functioning as an assembly area for various programs. This would keep the warming catering area and the storage space. The major adjustment is the location of the elevator and a separation of the stair an elevator from the main room.



Second floor conference room



Third floor multi-purpose room



Projection Booth

This would provide the appropriate ADA accessibility to this level. The space would also get new flooring and repainted walls. As for the ceiling, the recommendation is to remove the acoustic ceiling tile system to reveal the original metal ceiling. The lighting could be pendent fixtures with the HVAC ductwork running above the ceiling.

The projection room would remain but would be converted to a theater control booth.

Basement floor with Recommendations

The basement of the theater and commercial spaces may have originally been a commercial office area. However, through time this basement level has been reconfigured into a series of small rooms dedicated to educational space, a youth organization and mechanical equipment. Staircases located in each of the commercial spaces and one in the lobby provides access to this lower level. The historical drawings note this lower level as a restaurant with the kitchen area located under the South commercial space. Any remnants of this program or detail related to that program are no longer evident in the space today. The recommended reuse is to keep a social space available for the theater for pre and post show events. It will also house the mechanical equipment for the commercial portion of the building. The details of this area are included in the conceptual plans.

End of Architectural Narrative.

Building Codes, Standards and References

Code and Standards Compliance:

- International Building Code, 2009
- International Mechanical Code, 2009
- International Plumbing Code, 2009
- International Energy Conservation Code, 2009
- Energy Standard for Buildings ASHRAE 90.1-2007
- Ventilation for Acceptable Indoor Air Quality ASHRAE 62.1-2007
- Leadership in Energy and Environmental Design (LEED)
- Energy Policy Act, 2005

Design Criteria

Weather Data:

External design conditions used for the sizing of building HVAC systems will be as given in the ASHRAE Fundamentals Handbook, 2009 edition, for:

City: Goshen, Indiana
 Latitude: 41.71N
 Longitude: 86.33W
 Elevation: 774 ft above sea level

Summer:

Design dry bulb	90.9°F
Mean coincident wet bulb	74.3°F
Design wet bulb	77.4°F
Mean coincident dry bulb	86.8°F
Enthalpy at 86.8°F	41.3 Btu/lb

Winter:

Design Dry Bulb	-1.5°F
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Summer figures quoted above represent conditions that are exceeded for 0.4% of the year. Winter figures represent conditions that are exceeded for 99.6% of the year. From the summer table, the highest outside air enthalpy is 41.3 Btu/lb. This will be used for outside air psychometric calculations. Any impact of possible long-term climate change on local climatic conditions at the site is not accounted for in the design.

Outdoor Air Quality:

The site is located in downtown Goshen, Indiana. Local site air quality is unknown at this point.

Indoor Air Quality:

Outdoor air will be filtered as described in the filtration section below. Ventilation requirements of the ASHRAE 62.1-2007 will be met.



Existing Auditorium Supply Fan



Existing supply duct riser, stage-left



Existing supply ductwork above Auditorium

Indoor Design Temperature and Humidity (summer/winter):

Area	Temp. (°F)	Comments
Active Storage	75 / 72	1
Auditorium	75 / 72	1
Theater Support	75 / 72	1
Corridor	75 / 72	1
Electrical	78 / 55	1
Lobby	75 / 72	1
Main Elect / Mech.	95 / 55	1
Office	75 / 72	1
Restroom	75 / 72	1
Server	75 / 72	1
Storage	85 / 65	1
Telecom	75 / 72	1

Note 1: Maximum relative humidity is 50% in conditioned areas.

Occupancy:

Area	Occupants	Comments
Active Storage	200 SF/person	1
Auditorium	800 people	1
Theater Support	20 SF/person	1
Corridor	0 people	1
Electrical	0 people	1
Lobby	100 SF/person	1
Main Elect/Mech.	0 people	1
Office	100 SF/person	1
Restroom	0 people	1
Server	0 people	1
Storage	0 people	1
Telecom	0 people	1

Note 1: Occupant density is based on the default occupancy density in ASHRAE 62.1-2007 table 6-1.

Outside Air:

Outside air will be supplied to continuously occupied areas in accordance with the requirements of ASHRAE 62.1-2007.

Area	Minimum OA (People rate)	Minimum OA (Area rate)	Comments
Auditorium	5 cfm/person	0.06 cfm/SF	-
Theater Support	5 cfm/person	0.06 cfm/SF	-
Corridor	0 cfm/person	0.06 cfm/SF	-
Elect/Mech/IT	0 cfm/person	0.06 cfm/SF	-
Lobby	5 cfm/person	0.06 cfm/SF	-
Office	5 cfm/person	0.06 cfm/SF	-
Restroom	0 cfm/person	0.12 cfm/SF	-
Storage	0 cfm/person	0.12 cfm/SF	-

Heat Gain to Conditioned Spaces:

Heat gain from the building envelope, lights, people and equipment will



Existing supply ductwork above Auditorium



Existing supply ductwork above Auditorium



Existing supply ductwork above Auditorium



Existing supply air ductwork in Auditorium (House-right)

be calculated based upon the actual quantities (with diversity factors-see below) once the new design is determined.

Exhaust Air:

Area	Exhaust Rate (CFM/sf)	Comments
Coffee / Kitchenette	0.3	1
Copy	0.5	1
Janitor Closet	1.0	1
Restroom	75 cfm / fixture	1, 2

Note 1: Exhaust rate is based on ASHRAE 62.1-2007

Note 2: Rate is per water closet or urinal

Infiltration:

The building will be positively pressurized to minimize infiltration. Currently, an allowance for 0.075 cfm/sqft outside area over-pressurization is provided. For example, only 70% of ventilation air will be returned / exhausted, with the balance exfiltrating from the building. Although pressurization is provided, an allowance of 0.3 air changes per hour of infiltration is included in heating and cooling load calculations.

Filtration and Air Quality:

Particulate filtration will be provided at all air-handling units, including a MERV-8 pre-filter and MERV-13 final-filter. Individual A/C units serving high-load density spaces will be provided with MERV-10 filters.

Heating and Cooling Load / Energy Calculations

Methodology:

Simulation software: Trane Trace 700 (version 6.2.5.1) is used to determine peak heating and cooling loads. The calculation methodology is the ASHRAE Heat Balance method described in the 2009 ASHRAE Fundamentals Handbook.

Assumptions:

Solar and fabric gains: peak cooling load calculations in perimeter areas are calculated assuming no impact of external shading devices.

Piping heat gains and losses: no allowance will be made for capacity losses due to piping heat gains and losses, as most piping will be run within conditioned areas.

Duct heat gains: heat gains or losses experienced by air in ductwork in certain areas of the building will be accounted for as appropriate.

Diversity Factors:

Occupancy: it is unlikely that the total number of people, based on the density levels quoted above, will ever be present in the building. A diversity factor of 0.8 has been applied to the building occupancy loads in non-performance areas and will be used to size applicable mechanical equipment.

Equipment: as with occupancy, it is unlikely that all building equipment will be operating at full load simultaneously. A diversity factor of 0.8 has been applied to the building equipment cooling loads in non-



Existing supply air ductwork in Auditorium (House-left)



Existing furnace installed on stage=right



Existing workshop (multiple furnaces installed)



Existing basement furnace

performance areas. Performance equipment will be evaluated separately.

Lighting: a diversity factor of 0.9 has been applied to lighting cooling loads in non-performance areas.

Schedules:
Per the performance schedule.

Building Load:
To be determined.

HVAC Existing Conditions

In general, the existing original system has been abandoned. Some of the original forced air system still remains. The original centrifugal fan is in the basement, below the stage-left area. The original ductwork distribution started at the supply fan and created a supply riser on stage-left. The original ductwork was wooden and most of the distribution is still above the ceiling. The condition of the original existing system components are well beyond their life expectancy and should be demolished.

The heating system was steam. An older gas-fired boiler exists in the basement boiler room, below stage-right. The boiler appears to be non-functioning and by its age, beyond its useful life. Much of the existing steam and condensate piping remains but it has been abandoned.

Most of the facility is conditioned using residential gas-fired furnaces with air-cooled condensing units. The furnances have been installed in the basement, serving the basement and first floor areas, on the second floor and above ceilings (serving the Dance Studio. Most of the furnaces appear to be in good to fair condition and operational. Most were observed having minimal to no outside air connections.

Plumbing Existing Conditions

Domestic Cold Water- A 2" domestic water service enters the facility in the basement, from the main street. The service does not presently have an approved backflow preventer. The piping system is a combination of galvanized steel and copper piping. The condition of the piping is good, but the insulation is poor. Piping is routed to all plumbing fixtures and appears to be operational.

Domestic Hot Water- Gas-fired domestic water heaters were used to provide hot water to the plumbing fixtures. At the time of the survey, no heaters were operational. The condition of the piping and insulation is similar to the domestic cold water piping.

Restroom Fixtures- The overall condition of the existing plumbing fixtures is fair.

- *Water Closets:* Are typically floor-mounted flush valve or tank type. The vitreous china is in good condition, the fittings are in fair condition.
- *Lavatories:* Are typically counter-mounted, with manual faucet fittings. The vitreous china is in good condition, the fittings are in good condition.



Existing basement furnace



Existing basement furnace



Existing basement furnace

- Urinals: Are typically wall-hung, flush valve type. The vitreous china is in good condition, the fittings are old and in need of replacement.
- Service Sink: Are cast enamel with trap standard, chrome-plated lever handles. The enamel fixture is in fair condition, the fittings are old and in need of replacement.

Sanitary and Vent- All the existing fixtures appear to be connected to sanitary and vent piping. The sanitary and vent piping is a combination of cast iron and PVC. The piping system would be classified as fair condition.

Storm Piping- The existing storm piping system is cast iron and in fair condition. It was observed that near storm leaders and roof drains a fair amount of water damage. The roof has ample number of roof drains, but no secondary emergency overflow drains are present.

Fire Protection Existing Conditions

No sprinkler system exists.

New Work Scope

Plumbing

Furnish and install a new 3" domestic water service including a meter and reduced pressure backflow preventer, with cup drain. Extend new domestic cold water piping from the service to the new plumbing fixtures. Domestic water piping shall be Type "L" copper with copper fittings, acceptable joining methods include soldering or mechanical couplings. Insulate all domestic water piping using fiberglass pipe insulation with an all-service jacket. All shut-off valves shall be ball valves.

Domestic water heating will be accomplished using a 75-gallon natural gas-fired domestic water heater, installed in the basement. Pipe new domestic hot water to all lavatories, showers and the service sinks. Provide a fractional horsepower all-bronze circulator and recirculating piping from the farthest fixture back to the domestic water heater. Piping material, insulation and valving shall be similar to the domestic cold water.

Plumbing fixtures, such as water closets, urinals and lavatories, will be vitreous china. Acceptable manufacturers of vitreous china fixtures include American Standard, Crane and Eljer. Water closets and urinals shall be wall-hung with floor carriers. The lavatories will be countertop mounted or wall hung. Chrome plated flush valves and lavatory fittings will be incorporated. Acceptable manufacturers of fixture fittings shall be Chicago, Speakman, Zurn and Sloan. All fixtures shall have specialties such as stops, traps and trim as required. Other plumbing fixtures include, but are not limited to the following:

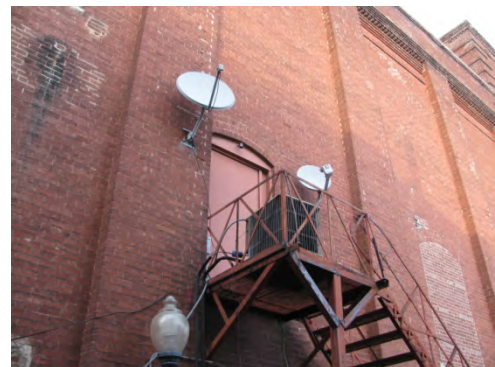
- Electric water cooler; stainless steel, ADA bi-level, radii dish (Oasis, Haws)
- Mop basin; 24"x24"x10" high molded stone (Fiat, Mustee)
- Floor drains; 6" round nickel bronze (JR Smith, Zurn)

Toilet rooms shall utilize infrared sensors for water closets (1.26 gpf), urinals (0.125 gpf) and lavatories (0.5 gpm).

Sanitary and vent piping shall be connected to the new plumbing



Existing furnace serving Dance Studio



Existing air-cooled condensing unit mounted on fire escape



Existing air-cooled condensing units in alley



Existing air-cooled condensing units on roof

fixtures. Piping shall be cast iron no-hub piping. Connect new sanitary sewers to existing within the building. Route sanitary vent piping up to the roof and terminate.

Provide a new storm water piping system. Replace the existing roof drains with new. Route new storm piping from roof drains and connect to existing within the building. Storm piping shall be cast iron no-hub piping; provide insulation on any horizontal storm piping and on storm leaders within sound sensitive areas. Install external lagging, in addition to the insulation in sound sensitive areas.

Provide a new natural gas sub-meter and pressure regulator. The high pressure natural gas main is located in the basement of the Temple building, set meter and regulator and route natural gas piping in tunnel below House-left to new domestic water heater (noted above) and rooftop unit (see HVAC Phase 2 scope below). The gas piping shall be Schedule 40 black steel with welded wrought steel fittings. At connections to equipment, provide a dirt leg and shut-off valve.

Fire Protection

We propose to install a new 6" fire service with the required backflow preventer. The entire facility will be protected by a wet sprinkler system. The stage will be protected by two 4" standpipes with 2-1/2" fire department valves. In the historic areas, the sprinkler heads will be concealed type, factory painted with a custom color to match the ceiling color. All other areas shall be standard concealed, pendant, upright or sidewall sprinkler heads.

HVAC

Install new indoor central station air-handling unit, AHU-1, capacity shall be 25,000 cfm, serving the Auditorium and Lobby. The new unit shall consist of a return fan section, economizer section, filter section having MERV-8 pre-filter and MERV-13 final filters, heating water coil, DX cooling coil and supply fan section. Acceptable manufacturers shall be Aeon, Carrier, McQuay, Trane and York. Unit shall be a minimum 3" double walled foamed panel construction and multiple fan sections (fan arrays). The unit shall be mounted on a 4" housekeeping pad and vibration isolators. An air-cooled condensing unit shall be located on the roof with equipment rails and vibration isolators. Route refrigerant piping between cooling coil and condensing unit.

Install new indoor central station air-handling unit, AHU-2, capacity shall be 5,500 cfm, serving the new Theater support spaces constructed in adjacent building and below the stage. The new unit shall consist of a return fan section, economizer section, filter section having MERV-8 pre-filter and MERV-13 final filters, heating water coil, DX cooling coil and supply fan section. Acceptable manufacturers shall be Aeon, Carrier, McQuay, Trane and York. Unit shall be a minimum 3" double walled foamed panel construction. The unit shall be mounted on a 4" housekeeping pad and vibration isolators. An air-cooled condensing unit shall be located on the roof with equipment rails and vibration isolators. Route refrigerant piping between cooling coil and condensing unit.

Install new outdoor central station air-handling unit, RTU-1, capacity shall be 5,000 cfm, serving the Dance Hall and 3rd floor areas. The new unit shall consist of a return fan section, economizer section, filter section having MERV-8 pre-filter and MERV-13 final filters, heating



Existing domestic water service



Existing typical plumbing fixtures



Existing sump pump/sewage ejector

water coil, DX cooling coil, supply fan section and condensing unit. Acceptable manufacturers shall be Aeon, Carrier, McQuay, Trane and York. Unit shall be a minimum 3" double walled foamed panel construction. The unit shall be mounted on a 16" vibration isolation roof curb.

The following areas shall re-use the existing gas-fired furnaces and associated condensing units:

Area	Unit Tag	Capacity
Social Hall (Bsmt)	F-1, CU-1	2,000 cfm; 5-ton
Admin Offices (1 st)	F-2, CU-2	1,200 cfm; 3-ton
Social Hall Lobby & Toilet Rooms (1 st)	F-3, CU-3	1,000 cfm; 2.5-ton
2 nd Floor Offices	F-4, CU-4	1,600 cfm; 4-ton
2 nd Floor Conf. Room	F-5, CU-5	1,000 cfm; 2.5-ton

New toilet rooms and general exhaust shall be served using a power roof exhauster mounted on the roof with a vibration isolation roof curb.

The air distribution system (supply, return and exhaust ductwork) will consist of galvanized sheet metal ductwork. The air distribution system shall be:

AHU-1: Displacement- new supply and return ductwork installed below Auditorium in accessible crawl space with new displacement diffusers

AHU-2: VAV with reheat- approximately 10 VAV boxes

RTU-1: Single-zone VAV- new supply and return ductwork installed above Dance Hall ceiling with new grilles and diffusers.

Furnaces: Constant volume- new supply and return ductwork to accommodate the architectural floor plan

Ten (10) VAV boxes (for AHU-2 only) shall be direct digital control (DDC) and pressure independent as manufactured by Titus, Price or EnviroTec. In general, ductwork sizing shall be to keep mains at/below 1500 fpm; branches at/below 1000 fpm; exposed ductwork in performance spaces at/below 800 fpm; takeoffs to diffusers/grilles at/below 500 fpm. The new ductwork shall be internally lined with fiberglass and mounted on vibration isolator hangers.

Furnish and install three (3) high-efficient, natural gas-fired modulating condensing boilers in the basement. The boilers would be sized for the space heating requirements and perimeter heating devices. We anticipate this load to be approximately 1,000 MBH. The modular boilers would be similar to Lochinvar "Crest" boiler or acceptable as manufactured by Thermal Solutions or Patterson Kelley, having a thermal efficiency greater than 95%. Boilers shall be mounted on a 4" concrete housekeeping pad with 3/4" neoprene waffle pads. The heating water will be distributed throughout the facility using two (2) centrifugal vertical inline pumps (250 gpm each), one running and one standby. Acceptable pump manufacturers are Armstrong, Bell & Gossett, Taco and Paco. Each pump will have an associated variable frequency drive (VFD). The heating water piping shall connect the pumps to the heating devices, such as cabinet unit heaters, VAV reheat coils and unit heaters. Typical valving used throughout the system shall be ball valves (for 4" piping and smaller- shutoff duty) and circuit-setting balancing valves. Pumps shall be mounted on 4" concrete housekeeping pads, pipe support with 3/4" neoprene waffle pad and double-sphere neoprene



Typical New Water Closet



Typical New Urinal



New Vertical Inline Pump

isolators. All piping within the mechanical rooms and sound sensitive areas shall be supported with vibration isolation type hangers. HVAC piping connections to heating devices shall be isolated from the piping system in the sound-sensitive areas. The heating water piping shall be copper (2" and smaller) and Schedule 40 black steel (2-1/2" and larger). All heating water piping shall be insulated with fiberglass pipe insulation.

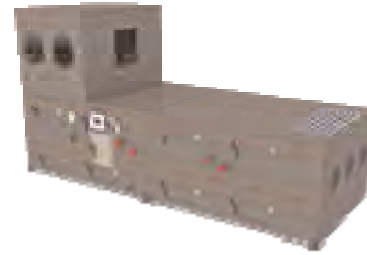
The dimmer and audio rack rooms serving the performance spaces will be controlled using a DX computer room type unit with electric reheat and humidifier. Acceptable manufacturers include Liebert, Stultz and DataAire. The capacity of the system will be determined based upon the equipment installed within the room. The unit will be ceiling suspended from the structure using threaded rods and vibration isolators. These rooms will be naturally ventilated (outside air intake and dedicated exhaust fan) in addition to the computer room unit. When outdoor conditions are favorable natural ventilation shall be used.

The building will be controlled by an electronic DDC system capable of integrating multiple building functions. The building functions will include equipment supervision and control, scheduling of equipment, alarm management, energy management and historical data collection and archiving. The system architecture shall be to provide a DDC control panel as follows:

- Heating plant
- Each rooftop or air-handling unit
- Each VAV box

Each DDC control panel shall be networked together with the main DDC controller and the operator interface computer to form the complete BAS. The BAS will be graphics based and have the capability of on and off site monitoring. The DDC system will have a 25% expansion capability.

Control strategies on the airside include, but are not limited to enthalpy based economizer control, CO2 sensors to control the amount of required outside air, occupancy scheduling, supply air reset (on VAV systems) and building pressurization. Control strategies on the waterside include, but are not limited to variable pumping and heating water reset schedule.



Typical indoor air-handling unit



Condensing modulating boiler



Building Automation System

The following theatrical equipment narrative serves as a design basis for future work at the Goshen Theatre in Goshen, Indiana. Products identified by manufacturer or model in this narrative represent the performance characteristics and quality expectations for this project, and may not be the products specified in the project Construction Documents.

Theatre Dimming and Control System

The existing auditorium and stage lighting system is controlled from a backstage panelboard with fused knife switches. All conductors are exposed to the operator, and most circuits are switched on and off without dimming capability. A portion of the main house lighting is controlled by autotransformer dimmers located on the stage right proscenium wall. A small portable dimming and control package has been set up in the balcony to provide basic front wash lighting for services and performances, but there is no existing power and control distribution to the front-of-house area.

Recommended improvements include the installation of a high-density SCR dimmer rack with interchangeable dimming and relay modules to serve new stage and auditorium dimming branch circuits. This rack will be supplemented with a relay panel to provide dedicated switching control of work lights, power to solid state (LED) fixtures, and related lighting loads that do not require traditional dimming.

Stage lighting branch circuits will be distributed from the dimmer and relay panels to lighting positions throughout the space. At each location, wiring devices will provide labeled connection points for stage lighting fixtures and accessories. Distribution is anticipated in the following locations:

- Approximately 48 circuits will be located along the stage right and left gallery rails, configured in 6-circuit multi conductor cable connectors to serve battens and booms as needed for each production. Extension cables and circuit fan-out connectors shall be included for this flexible placement application.
- Approximately 16 circuits will be located in wall boxes around the stage perimeter to serve booms and floor-based loads.
- Approximately 20 circuits will be located in surface wiring devices at the balcony rail.
- Approximately 12 circuits will be located on new boom locations at the balcony side walls.
- Approximately 12 circuits will be located in the auditorium attic at a new cove slot position.



Existing lighting control panel



Existing front wash lighting controller



New Stage Dimmer Rack and Relay Panel.



6-Circuit Multi-conductor Cable and Fan-out

- Approximately 8 circuits will be hard-wired to auditorium house lighting fixtures.

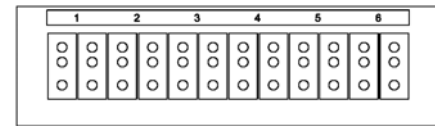
A new computerized lighting control console will be provided to manage the stage lighting dimmers and relays. This console will have 500 control channels with 1,024 outputs (2 DMX universes), and DVI touch-screens for intuitive operation. Console will be an ETC Element or Strand Classic Palette series, and can be located anywhere in the auditorium as needed for productions.

An Ethernet data distribution system shall enable the stage lighting control console to address the dimmer rack, relays, color scrollers, automated fixtures, and other accessories using DMX or ACN data control protocols. This system shall consist of an Ethernet switch with patch bay and Category 6 wiring to Ethernet taps located strategically throughout the theatre. Portable Ethernet adapter nodes (gateways) with DMX output shall connect to these taps to provide data control signals to color-changers, moving lights, solid-state LED lights, and other 'intelligent' equipment. Advantages of Ethernet distribution include: high data speed and volume, lower cable cost, forward-compatible readiness, and consistency with rental inventory and trends in other professional venues.

Ethernet taps and node gateways will be distributed in the following locations:

- 1 gateway with 2 DMX ports at the control room.
- 1 tap at balcony box house left.
- 1 tap at the balcony mix position, in AV floor box.
- 1 tap at balcony box house right.
- 1 tap at the center balcony rail.
- 1 tap at the main floor rear wall.
- 1 tap in the orchestra pit.
- 2 taps at stage level.
- 1 gateway with 2 DMX ports on stage level, stage left.
- 1 gateway with 2 DMX ports on stage level, stage right.
- 2 taps at stage mezzanine bridge
- 2 gateways with DMX output at the stage right gallery rail.
- 6 portable gateways, each with 2 DMX ports.

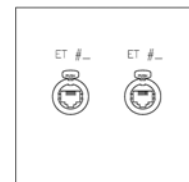
Master house and work light control stations with multiple potentiometers and presets shall be located in the control booth and back stage. House and work light control stations with multiple presets shall be located at auditorium entrances, attic, gridiron, and stage bridges.



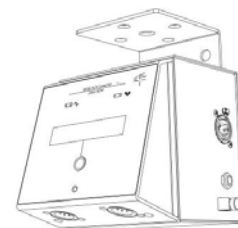
Outlet Box w/ 6 – 20A Circuits



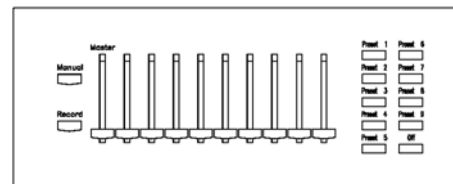
Stage Lighting Control Console



Ethernet Tap



Portable Ethernet 2 Port Gateway



House Lighting Master Control Panel

Stage Lighting Fixtures

At present, the existing stage lighting system consists of antiquated border strips framing the proscenium and on overhead battens, supplemented with halogen PAR fixtures and a few 3.5" Altman ellipsoidals. To accommodate the anticipated event programming, throw distances, and improved fixture efficiency, a replacement package of lighting fixtures and accessories will be required. Anticipated quantities and types will include the following:

- 32 – ETC SourceFour ellipsoidal spotlights, including assorted 10, 19, 26, 36 degree lens barrels.
- 12 – ETC SourceFour ellipsoidal spotlights, with variable zoom lens barrel.
- 12 – ETC SourceFour LED ellipsoidal spotlights, configured with LUSTR+ 7-color chip array.
- 15 – ETC SourceFour Desire D60 LED wash lights, configured with VIVID+ 7-color chip array.
- 20 – ETC SourceFour PAR halogen flood lights with interchangeable lens spreads.
- 4 – L&E mini floodlights for specialty applications.
- 4 – Times Square W150 Non-dim HID Worklights.
- 12 – Altman *Spectra Cyc* LED cyc lights.
- 2 – portable discharge lamp follow spots with base, such as Strong Canto 250 or Phoebus i-Marc.
- Lamps for all above luminaires, plus 20% spares.
- 2 – High End Systems StudioSpot CMY Zoom intelligent moving spotlights.
- 2 – High End Systems StudioColor 575 intelligent moving washlights.
- 4 – Martin MAC 350 Entour intelligent LED moving spotlights.

An array of barn doors, snoots, template holders, irises, stage cable, control cable, splitters, and similar accessories will be provided to accompany the stage lighting package.

Stage Rigging System

The existing stage rigging consists of a hemp system with pin rails located on the stage right deck as well as both gallery decks. Ropes are fed through three-sheave head blocks on either end of the wooden grid, and then through three loft blocks per lineset spaced at approximately 15' intervals. There are currently 12 linesets with battens, using a mix of manila and synthetic rope for suspension. Working load limit for each lineset should be limited to less than 375#.

It is not feasible to replace the wooden rigging grid with a steel structure. Therefore, it is anticipated that some structural



Ellipsoidal Spotlight



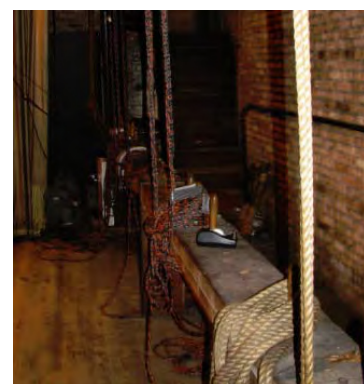
Altman *Spectra Cyc*



Strong Canto 250 Follow Spot



High End StudioSpot CMY Zoom



Existing stage right pin rail

reinforcement may occur to allow for a handful of higher-loading linesets to accommodate stage lighting battens.

The existing pin rails will be re-used, and will be reinforced with strap bands and additional floor reinforcement as required to satisfy the anticipated increase in uplift loads.

Suggested provision for the upgraded rigging should include the following:

- (18) new hemp lineset systems comprised of new 40'-0" aluminum truss batten, new 3-sheave sloping head block, three new loft blocks, three new 5/8" Sampson Stable Braid or New England Multi-Line II lines, easy trim clamp. Design distributed working load of up to 600# each less grid de-rating factor.
- (12) new loft and head block sets only, to permit shifting of above lineset systems as required for productions.
- (3) new motorized clew winch sets to serve primary stage lighting battens. Each set will include a frame-mounted clew winch at the stage gallery wall, new 40'-0" aluminum truss batten, new custom head block, new 3-sheave mule blocks, three new loft blocks, three new 3/16" wire rope lines, and electrical connection. Design distributed working load of up to 750# each less grid de-rating factor.
- (2) new dead-hung cable sets to support the grand drape traveler and the mid-stage blackout traveler. Each set will include five new 3/8" wire rope cable picks with turnbuckle and trim chain, new 48'-0" aluminum truss batten, and gridiron attachment hardware.
- A complement of new nylon/poly sandbags with safety hook, varying capacities of 10 to 50 pounds, with plastic liner and clean, screened white play sand filler. Total sandbag weight provided shall be no less than 4,000 pounds.
- New steel belaying pins to complement existing walnut belaying pins.
- A 600' spool of spare synthetic rope matching that used in the linesets shall be furnished for spotting line use.
- Assorted cable loops, utility slings, trim chain, batten clamps, and loose pipe shall be furnished to supplement the rigging system.

Proscenium Fire Curtain

The size of this stage house dictates the requirement for an operable fire curtain system at the proscenium. The existing curtain contains asbestos and therefore must be replaced with a new fire curtain fabricated with Zetex Plus or equal fire resistant material. Further, the operating system will require replacement to comply with current life safety codes for travel



New pipe truss battens



Sampson Stable Braid Rope



Poly Sandbags with safety hook



New Brail Fire Curtain System

speed, daily test operation, interconnects with detection equipment, and fire alarm controls.

Stage Drapery and Track

The existing grand drape, teaser, and masking are in need of replacement. The existing split traveler track serving the grand drape may be salvaged for future production requirements.

New stage drapery shall be provided that is made of inherently flame resistant synthetic fabric that will never require flame retardant treatments. The new grand drape and teaser will be sewn with custom-color fabric and bullion trim. All other drapery will be as indicated below. Recommended soft goods and track are as follows:

- 1 – grand drape curtain with 50% fullness, consisting of two symmetric panels each 23'-0"w x 27'-0"h.
- 1 – split traveler track to serve grand drape, with minimum 3'-0" center overlap, and overall length of 44'-0", complete with all necessary accessories.
- 1 – grand teaser curtain with 50% fullness, 40'-0"w x 12'-0"h.
- 1 – mid-stage blackout curtain with 50% fullness, consisting of two symmetric panels each 25'-0"w x 27'-0"h.
- 1 – split traveler track to serve grand drape, with minimum 3'-0" center overlap, and overall length of 47'-0", complete with all necessary accessories.
- 6 – 12'-0"w x 27'-0"h legs with 50% fullness.
- 4 – 42'-0"w x 12'-0"h borders, sewn flat.
- 1 – 44'-0"w x 21'-0"h black sharktooth scrim.
- 1 – 44'-0"w x 24'-0"h CBS Gray muslin cyc.
- 3 – 16 bushel, rolling storage hampers.



Existing Grand teaser and Drape from stage side



Stage Traveler Track System



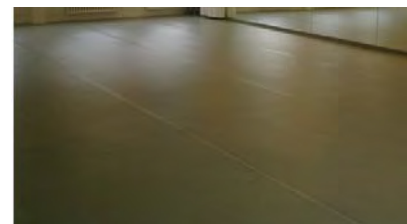
New velour legs and borders

Acoustic Drapery and Track

For certain event types, it will be necessary to adjust the acoustic properties of the audience chamber. To achieve this, a series of drapery panels mounted on track will be arrayed along the rear walls of the auditorium. These panels will be hand-deployable as required. Coverage will include approximately 1,200 square feet of drapery, sewn from 21oz. velour with 100% added fullness.

Portable Dance Linoleum Surface

Approximately 1,500 square feet of portable dance linoleum, such as Harlequin Cascade, shall be provided to cover the primary stage floor surface for soft-shoe dance productions.



Portable Dance Surface

This floor will be furnished in rolls to permit ease of installation and storage.

Portable Orchestra Pit Filler

Approximately 260 square feet of removable, portable orchestra pit filler platforms shall be provided to infill the orchestra pit at the orchestra seating level to allow the installation of additional seats when the orchestra pit is not in use. These platforms can also be erected at stage level to serve as a stage extension.



Orchestra Pit Filler Platforms

Orchestra Pit Safety Net

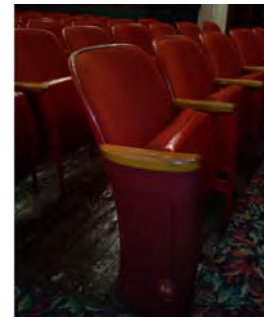
An OSHA approved safety net system shall be provided to prevent personnel from falling into the orchestra pit.



Orchestra Pit Safety net

Theatre Seating

The main floor existing seating appears to be in condition suitable for refurbishment. Select seats will be removed to accommodate ADA requirements for wheelchair and companion seating. Approximately 430 of these seats will have new padding and upholstery, along with replacement of lift mechanisms and associated hardware. Select aisle standards will be modified to accommodate ADA requirements for transfer seating. Seat number plates shall be located at the lip of each seat bottom. Row letter plates shall be located on the face of each aisle standard. LED type aisle lights shall be retrofitted into the face of each aisle standard.



Existing main floor seating
To be refurbished

The approximately 308 seats at balcony level will be replaced with new auditorium seats of a similar style to those on the main floor. Finish colors and Upholstery will match throughout. Seat number plates, row letter plates, and aisle lighting will match that being provided on the main floor.

8 new loose armchairs with padded, upholstered seat backs and bottoms shall be provided in ADA seating areas.



New Stacking Loose Chairs

60 gangable, folding loose chairs shall be provided for performances where the pit filler platforms are installed to provide a seating area over the orchestra pit, as well as for on-stage use where required for meetings, panel discussions, etc.



New Folding Loose Chairs

**THEATRICAL SYSTEMS –
OPINION OF PROBABLE CONSTRUCTION COST**

The following information is provided as an aid to the planning process, and does not constitute a formal construction estimate. Costs are broken down by category as outlined in this narrative. These numbers are based upon our experience with projects of similar scope and in similar markets, and assume a competitive bidding scenario. These numbers do not include escalation, general conditions, market fluctuations, and other considerations that should be factored into a formal estimate.

Theatre Dimming and Control System	\$ 104,250
Stage Lighting Fixtures and Accessories	\$ 171,050
Stage Rigging System	\$ 124,900
Proscenium Fire Curtain	\$ 233,000
Stage Drapery and Track	\$ 77,875
Acoustic Drapery and Track	\$ 18,350
Portable Dance Linoleum Surface	\$ 7,820
Portable Orchestra Pit Filler and Safety Net	\$ 21,800
Theatre Seating	\$ 219,600
Total Theatrical Systems Opinion of Probable Cost:	\$ 978,645

The following narrative is the design basis for future Audiovisual systems and equipment at the Goshen Theater in Goshen, Indiana. Expected activities within the space would be live music with stage monitor mixing. Where given, some opinions of probable costs include installation and integration while others require installation by the General / Electrical Contractor. Opinions of probable costs do not include taxes and are based on equipment being bid directly to the Construction Manager or Owner. General Contractor overhead / profit markup is not included.

Main Theater:

Audio Reinforcement:

While the theater owns some QSC K8 active loudspeakers, they may not be suitable for all applications within the space, and WRL recommends a center cluster of loudspeakers in conjunction with a compact Left / Right active line array system. Each line array shall be coupled with an owner furnished QSC KSub to round out the low end of the frequency spectrum. Since the theater balcony shields sound from the back of the room, WRL recommends strategically placed under balcony loudspeakers required for coverage in those locations. The system will be coupled with an appropriate quantity of amplifiers to support the power requirements of the loudspeakers without distortion.

Mixing Console:

The theater owns a Presonus StudioLive 16.4.2, which will work nicely in the space, but has some limitations in certain applications. WRL recommends adding another Presonus StudioLive 24.4.2 which could be used as the main mixing console for stage monitor mixing only, or as a slave to the existing board to expand capabilities to 32 channels in, 8 aux channels, and 4 discrete output channels.

Playback and Processing Equipment:

Currently, the theater owns a used Apple Mac which is in use as a DAW, but they own no processing equipment. WRL recommends one (1) CD player with MP3 player dock, as well as enough processing equipment to handle the required discrete inputs and discrete outputs of the system. This processing equipment would allow the routing of individual audio channels to specific loudspeaker locations, as well as properly separate frequency information between loudspeakers and subwoofers to reduce opportunities for feedback to occur and provide a flat frequency response within the theater.



Typical Center Cluster



Typical Compact Active Line Array



Typical Under Balcony Loudspeaker



Typical Mixing Console



Typical Processing Equipment

Audio Cabling, Connections, and Distribution:

Currently, there are three (3) floor boxes in the stage floor for audio distribution with cabling back to the main AV Equipment rack located on Stage Right. There are eight (8) microphone inputs per box, and two (2) loudspeaker outputs per box. WRL recommends putting in a digital distribution system in order to provide flexibility in input/output locations as well as minimizing the cost of the supporting infrastructure such as wiring and conduits. Furthermore, this system would allow future expansion to the audio system with minimal equipment cost and almost no labor. The Digital Distribution System would be comprised of two (2) production panels (one on each side of the proscenium). Each production panel would be run back to both the house mix position and control booth, and would contain (see next page):

Stage Left (TBD w/ Goshen Staff):	16 channel digital I/O card frame with 12 mic inputs and 4 line level I/O
	2 CAT6 Tie Lines for video distribution
	2-channel intercom headset connectivity
	1 – quad technical IG power receptacle
Stage Right (TBD w/ Goshen Staff):	16 channel digital I/O card frame with 12 mic inputs and 4 line level I/O
	2 CAT6 Tie Lines for video distribution
	2-channel intercom headset connectivity
	1 – quad technical IG power receptacle
Loose Production Box (TBD w/ Goshen Staff):	16 channel digital I/O card frame with 12 mic inputs and 4 line level I/O
Left / Right Line Array Positions (TBD w/ Goshen Staff)	2 line level XLR outputs – one for active line array, one for active subwoofer
Audience Chamber	(1) PTZ camera location with 2-channel intercom connectivity, audio stage monitor mic input, and network connection.



Typical Digital Audio Distribution System



Typical Production Panel

Mix Position and Control Booth	Lighting Position – 2-channel intercom headset connectivity, DMX over Ethernet connectivity, network connection
	Sound Position – 2 channel intercom headset connectivity, network connection, digital audio I/O distribution connectivity
	Stage Management Position – 2-channel intercom headset connectivity, paging mic input, (2) video outputs,

Wireless Audio Systems:

Currently, the theater has no intercom or production support capabilities required for live theatrical and performance. WRL recommends a 2-channel portable intercom main station and two (2) video receivers housed in a portable 4RU rack case for use by a stage manager at production panel locations as well as house mix and control booth locations. In addition, four (4) intercom belt packs with headsets shall be included for use by a team of four production personnel (including stage manager). As a production support system for the stage manager, a color camera for well-lit scenes and an IR camera for dark scene changes shall be included, whose signals will be sent to the stage manager's portable rack case referenced above.

Production Support Systems:

Currently, the theater has no intercom or production support capabilities required for live theatrical and performance. WRL recommends a 2-channel portable intercom main station and two (2) video receivers housed in a portable 4RU rack case for use by a stage manager at production panel locations as well as house mix and control booth locations. In addition, four (4) intercom belt packs with headsets shall be included for use by a team of four production personnel (including stage manager). As a production support system for the stage manager, a color camera for well-lit scenes and an IR camera for dark scene changes shall be included, whose signals will be sent to the stage manager's portable rack case referenced above.



Typical ADA Hearing Assistance System



Typical Antenna Distribution System



Typical Production Support Equipment

Video System Equipment:

Currently, the theater has no video display systems. WRL recommends a fast-fold portable projection screen in an appropriate size in order to be visually intelligible and to be used when required. In addition, a projector with the appropriate brightness in order to achieve a 15:1 Projected System Contrast Ratio on the screen shall be provided and located in the control booth, along with an appropriate zoom lens and spare lamp.



Typical Video Projector

Control System Equipment:

Currently, the theater has no capability to control the flow of video signals throughout the space, or remotely manage any controlled items (e.g. projection screens, source selection, transport control). WRL recommends a control system processor with the ability to be remotely managed through a software interface, as well as local control via a wired control system interface and wireless control through an app loaded onto an owner furnished Apple iPad.



Typical Fast-fold projection screen

Miscellaneous Equipment:

WRL recommends an appropriate quantity of new racks with thermal and power management to house the associated AV equipment for the systems described above. In addition, a wired L3 router, a networked uninterruptible power supply, an owner furnished wireless router, and all associated miscellaneous rack cabling, hardware, connectors and accessories shall be included.



Typical Control System Equipment



Typical Miscellaneous Equipment

AUDIOVISUAL EQUIPMENT OPINION OF PROBABLE COSTS:

Audio Reinforcement	\$47,800
Mixing Console	\$5,000
Playback and Processing Equipment	\$12,900
Audio Cabling, Connections, and Distribution	\$31,000
Wireless Audio Systems	\$16,400
Production Support Systems	\$28,300
Video System Equipment	\$33,700
Control System Equipment	\$17,200
Miscellaneous Equipment	\$16,400
Totals:	\$208,700

Overview

This report summarizes the observations made during the site visit on December 8-9, 2011 to the Goshen Theatre located at 216 South Main Street in Goshen, Indiana 46526. The purpose of the visit was to make a visual assessment of the condition of the electrical systems for the theatre including, but not necessarily limited to, power distribution, grounding and bonding systems, interior and exterior lighting, emergency egress lighting, fire alarm, and telecommunications systems.

The observations made are limited to those areas where the existing equipment was exposed. Areas where the systems were concealed by suspended or plaster ceilings, or simply were not accessible and/or visible are not included in this assessment. During the electrical survey, the systems were evaluated for compliance with the following codes and standards:

Building Codes, Standards and References

- Architectural Barriers Act Accessibility Standard
- City of Goshen, Rules Regulations and Ordinances
- County of Elkhart Rules Regulations and Ordinances
- Energy Policy Act, 2005 (EPA 2005)
- Energy Standard for Buildings ASHRAE 90.1-2007
- Illuminating Engineering Society of North America
- Indiana Building Code, 2008
- Indiana Electrical Code, 2009
- Indiana Energy Conservation Code, 2005
- Indiana Safety Code for Elevators, 1989
- International Building Code, 2010
- International Energy Conservation Code, 2010
- Leadership in Energy and Environmental Design (LEED)
- National Electrical Code (NFPA-70), 2011
- National Fire Alarm Code (NFPA-72), 2010

Alterations to the building shall comply with the requirements of the code for new construction. Alterations shall not be made to any areas that will cause the building to be in violation of any codes. Portions of the existing building not altered and not affected by the alterations are not required to comply with the code requirements for a new structure.

General Design Criteria

All new electrical work shall be installed in accordance with the following general design criteria:

- Owner's specific program requirements per phase.
- Short circuit calculations based on available fault current as determined by the electric service provider.
- Voltage drop calculations per demand load, not to exceed 2% on feeder conductors, 3% on branch circuit conductors and 5% overall.
- Branch circuit ratings not less than the non-continuous load plus 125% of the continuous load.



Goshen Theatre Marquee



National Electrical Code



Typical PVC and EMT Raceway

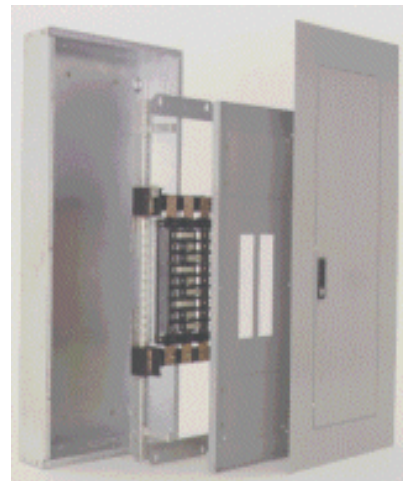


Stranded Copper Conductors

- Maximum of six (6) general convenience receptacles per 20 ampere branch circuit.
- Dedicated circuits for larger power consumption equipment, i.e., copiers, printers, microwave ovens, refrigerators, etc.
- New equipment specified as Underwriters Laboratories (UL) labeled and listed.
- Specification grade wiring devices with stainless steel cover plates.
- Motors less than 1/2 horsepower connected to either 120V-1Ø or 208V-1Ø service.
- Motors 1/2 horsepower and larger connected to 208V-3Ø or 480V-3Ø service.
- Flexible conduit, minimum 1/2" trade size and 6' length used for all motor connections.
- Intermediate metal conduit (IMC) with threaded couplings and fittings used in slabs, in exterior walls, and for exposed surface applications to a height of 8 feet above finished floor.
- Electrical metallic tubing (EMT) with compression type couplings and fittings used generally for concealed applications, interior partition walls and above the 8 foot demarcation as noted above.
- Schedule 40 polyvinyl chloride (PVC), minimum 1" trade size with cemented couplings and fittings, and cover requirements per NEC used for underground raceways on site.
- Underground cables of any classification installed in raceway systems, sized to allow for future growth.
- Raceways penetrating exterior building walls with internal and external seals to resist moisture.
- Minimum size of raceways 1/2" trade size for power and 1/2" trade size for control and auxiliary systems.
- Power and control wiring utilizing single insulated conductors installed in raceway systems.
- Copper conductors with sizes stated in American Wire Gauge (AWG) notation.
- Minimum conductor sizes #12 AWG for power and lighting circuits, #10 AWG for all dimming circuits, #14 AWG for mechanical control circuits, and #16 AWG for auxiliary systems or as recommended by system manufacturers.
- Conductor insulation code grade type THHN/XHHW/THWN, rated 90 degrees Celsius.
- NEMA1, branch circuit panelboards for general loads as manufactured by Cutler-Hammer Products/ Eaton Corporation, GE Electrical Distribution & Control, Siemens Energy & Automation, or Square D.
- NEMA1, branch circuit panelboards with controllable breakers as manufactured by Cutler-Hammer Products/ Eaton Corporation, GE Electrical Distribution & Control, Intelligent Lighting Controls, Inc., LC&D Lighting Controls, Siemens Energy & Automation, Square D or Watt Stopper.
- Branch circuit panelboards main lug only, 42-pole with hinged-covers, fully rated copper busing, bolt-on type circuit breakers, 100%-rated neutral bus, equipment ground bus, isolated ground bus (if required).
- Distribution equipment with adequate fault interrupting ratings for present and future utility requirements.
- Receptacles located in bathrooms, kitchens/concessions and outdoors shall be protected by ground-fault circuit-interrupter



Typical Service Switchboard



Typical Branch Circuit Panelboard



Theatrical Wiring Devices

- protection for personnel.
- All exterior receptacles shall also have weatherproof covers.

Theatre Design Criteria

All new electrical work related to theatre equipment shall be installed in accordance with the following design criteria:

- Company switches furnished with shunt-trip main circuit breakers, female cam-lock load-side connectors, hinged-cover doors, integral micro-switches to trip shunt-trip main circuit breaker if door is opened while energized. Company switches shall be as manufactured by Electronic Theater Controls, Lex Products, SSRC, Stagecraft Industries, or Union Connector.
- Power and wiring for dressing room receptacles. A minimum of one (1) receptacle shall be installed at each dressing table seat location. Each dressing table receptacle shall be connected to a dedicated, 20A circuit.
- Power and wiring for one (1) dedicated lighting circuit to serve every three (3) dressing table seat locations.
- All lights and receptacles adjacent to mirrors and above dressing table counters controlled by wall switches installed in dressing rooms.
- Each switch controlling receptacles adjacent to mirrors and above dressing table counters provided with a pilot light located outside dressing room, adjacent to door to indicate when receptacles are energized.
- Power and wiring for receptacles for automated lighting located at box boom locations, catwalks, fly floors, orchestra pit and stage.
- Power feeders, branch circuit wiring, raceway accommodations, and labor to install various theatre technical and production facilities and equipment described elsewhere.
- Theatre facilities includes theatrical wiring devices (surface, flush and pipe mounted plug boxes), powered rigging hoists, and floor pockets.

Mechanical Design Criteria

All new electrical work related to mechanical equipment shall be installed in accordance with the following design criteria:

- Both 208V-3Ø-3W and 480V-3Ø-3W, feeders and branch circuits for mechanical HVAC and plumbing equipment, including 3-pole, heavy-duty, fusible safety switches and all associated connections.
- Combination heavy-duty, 3-pole, heavy-duty, fusible safety switches, and FVNR magnetic motor controllers for all pump motors and air-handlers as required.
- All motor-controllers shall be furnished with 120V control voltage transformers and H-O-A selector switches. Units installed indoors shall have NEMA 1 enclosures. Units installed outdoors shall have NEMA 3R enclosures.
- All 120V control wiring shall be the responsibility of the Electrical Contractor. Low voltage temperature control wiring shall be the responsibility of the Temperature Control Contractor.



Main Lobby Decorative Pendant Lighting



Marquee Lighting Contactors



Concessions Panels at Main Lobby

Service and Power Distribution – Existing Conditions

The theatre block consisting of the theatre, travel agency, and other separately metered spaces are presently served by multiple small residential overhead electric services from Northern Indiana Public Service Company (NIPSCO), the local utility provider in the area. Each tenant has a dedicated, residential style load center to accommodate lighting, receptacles, and mechanical equipment within their space.

Building Owner, Downtown Ministry of Goshen will need to initiate a "Service Upgrade Request" through NIPSCO when modifications to this system are required:

NIPSCO (Commercial & Industrial):
Mr. Chris Pieri, Major Account Manager
Phone: 574-284-2162
Email: cnpieri@nisource.com

The electric service to the theatre originates from NIPSCO pole-mounted transformers and overhead service conductors, and enters the building from the alley on the east side of the theatre. The conductors travel through a weather head and mast down to the basement and into the main electrical service panel.

The metered electric service is rated 600A, 120/240V-1Ø-3W and connects building loads including sub-panels, lighting, receptacles, and mechanical equipment from the circuit breaker distribution panel:

- 100AF/100AT; Load Center – Lights / Recepts
- 200AF/200AT; Load Center – Projection Room / Tower
- 200AF/200AT; Load Center – Concessions
- 200AF/200AT; Load Center – Air Conditioning

The service equipment is newer and installed within the last 10 years however, most of the load centers downstream are either original or inadequate for future capacity and should be replaced with commercial grade panelboards. The existing power distribution system capacity is minimally adequate to serve the facility's present needs. It is not suitable to serve the facilities future needs as they relate to modern performance type functions and theatrical equipment related to audio and dimming systems typically found in today's renovated theatres.

Emergency Power Distribution – Existing Conditions

Although there is no dedicated emergency power distribution system, unitized equipment is installed throughout portions of the facility. It consists of battery-operated, combination emergency lighting and exit signs. The combination units are constructed of polycarbonate housing material which is fine for mechanical rooms and storage spaces but, typically not appropriate in public areas of venues such as this. An exit sign with an antique or polished metallic finish would be more suitable with the renovation and restoration of the theatre building.



Proscenium Arch Incandescent Lighting



Basement Main Distribution Panel



East Alley NIPSCO Pole-Mtd Transformer

Lighting System – Existing Conditions

Several areas of the facility have antiquated light fixtures which need to be either replaced or refurbished, if they have historic significance:

- *Exterior:* “Goshen” marquee at front entrance has several lamps burned out or missing; recommended replacement with LED lamps. The exterior alleys consist of city standard, ornamental street lights.
- *Main Entry Vestibule:* The entry vestibule consists of antiquated decorative incandescent pendant fixtures.
- *First Floor:* The offices consist of recessed fluorescent troffers.
- *Main Lobby:* The lighting consists of antiquated decorative fluorescent pendant bowl luminaires, incandescent downlights, and recessed fluorescent downlights.
- *Auditorium:* Consists of decorative incandescent recessed, pendant, and surface-mounted fixtures, residential ceiling fans with integral incandescent lights, incandescent accent lighting on balcony face and proscenium, recessed incandescent lights on ceiling beams, and decorative wall sconces on back and side walls of theatre.
- *Stage:* The lights consist of foot, border and electrics hung above stage area. See theatrical section for detailed description.
- *Mechanical:* Consists of incandescent porcelain sockets and industrial fluorescent fixtures.
- *Basement Playschool:* Area contains recessed fluorescent troffers, along with incandescent track accent lighting.
- *Third Floor:* The dance/rehearsal space consists of recessed fluorescent troffers.

Lighting in all areas throughout the facility are controlled locally by multiple toggle switches or directly from panelboard circuit breakers. Auditorium lighting is controlled by the stage right switchboard, through individual switches located on the stage or directly from panelboard circuit breakers by the concession area.

Most but not all exits and exit doors are marked by approved exit signs that are readily visible from any direction of egress travel.

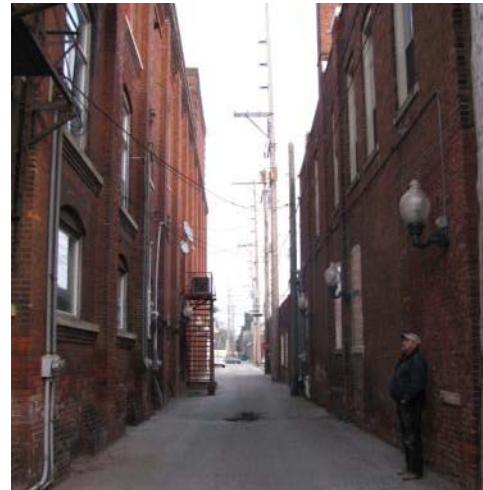
Fire Alarm System – Existing Conditions

There is no existing fire alarm system in the building. Also, there are no fire alarm annunciation devices provided to notify occupants in the event of a fire alarm situation.

Area coverage is accomplished by several standalone smoke detectors, 120 VAC powered or battery-operated that are sporadically located throughout the facility. However, it does not appear that adequate coverage is provided. There is no centralized system.

Telecommunications System – Existing Conditions

The building is currently being served from the local telephone



South Alley NIPSCO Overhead Electric Services



Stage Left Auxiliary Power Panel



Stage Right Theatre Switchboard

company. The telephone service consists of underground lines routed to a telecommunications backboard located in the basement of the building. The telephone/data lines are distributed throughout the building.

Service and Power Distribution – New Work

Upgrade of the electrical service is recommended to accommodate additional building loads. Based on mechanical and theatrical equipment included in other parts of this report, we recommend a new 2000A, 208Y/120V-3Ø-4W electric service.

The new electric service from NIPSCO shall replace the existing 600A, 120/240V-1Ø-3W service. In general, the new electric service equipment shall be installed in a new main electrical room located in the basement level, adjacent to the east alley. The service transformer(s) from NIPSCO shall be installed in the alley either on a pole structure or pad-mounted. Service conductors shall be routed underground into the basement to the new switchboard.

The power distribution system shall consist of the main switchboard rated 2000A, 208Y/120V-3Ø-4W, an incoming main section equipped with a main breaker and digital customer metering. The distribution sections shall contain group-mounted, molded case circuit breakers.

The switchboard shall utilize conduit and wiring to distribute to all related downstream panelboards and mechanical equipment. Acceptable power distribution equipment manufacturers shall be Cutler-Hammer Products/ Eaton Corporation, GE Electrical Distribution & Control, Siemens Energy & Automation, and Square D.

Power connections shall be provided as required from new electrical distribution equipment to existing panelboards, existing mechanical loads, new mechanical loads, new elevator, and new theatrical equipment:

Performance Theatre

- 400A, 208Y/120V-3Ø-4W dimming rack to serve stage and house lighting circuits.
- 400A, 208Y/120V-3Ø-5W company switch located at stage level for touring show power.
- 100A, 208Y/120V-3Ø-5W company switch with isolated ground and located at stage level for AV.
- 100A, 208Y/120V-3Ø-4W relay panel, 24-pole
- 100A, 208Y/120V-3Ø-4W panelboard for miscellaneous specialty power receptacles
- 60A, 208Y/120V-3Ø-4W fusible switch for rigging
- 50A, 208Y/120V-3Ø-4W bus pedestal at dock area

Dance Hall / Rehearsal Room

- 100A, 208Y/120V-3Ø-4W relay panel, 12-pole
- 100A, 208Y/120V-3Ø-4W panelboard for miscellaneous specialty power receptacles

Mechanical Equipment

- 20A, 120V-1Ø connection to F-1
- 20A, 120V-1Ø connection to F-2



Basement Air Conditioning Power Panel



West Mechanical Room Load Center



Playschool Area Load Center

- 20A, 120V-1Ø connection to F-3
- 20A, 120V-1Ø connection to F-4
- 20A, 120V-1Ø connection to F-5
- 30A, 208V-1Ø connection to CU-1
- 30A, 208V-1Ø connection to CU-2
- 30A, 208V-1Ø connection to CU-3
- 30A, 208V-1Ø connection to CU-4
- 30A, 208V-1Ø connection to CU-5
- 200A, 208V-3Ø connection to AHU-1
- 100A, 208V-3Ø connection to AHU-2
- 100A, 208V-3Ø connection to RTU-1

A transient voltage surge suppression (TVSS) device shall be installed adjacent or integral to the new main switchboard and on selected low voltage panelboards downstream to protect equipment from damage due to external and internal surges and spikes. Acceptable TVSS manufacturers shall be Current Technology, Liebert Corporation or Transtector.

A clean power distribution system for AV components consisting of separate isolated grounding conductors and isolated grounding type receptacles shall be installed to separate the building equipment ground and general loads from the AV equipment. A dedicated 75kVA, K-13 rated, electrostatically shielded, isolation transformer shall provide a technical grounding system for the AV equipment. The transformer shall feed audio sequencing panelboards containing motorized circuit breakers to sequence power to the AV components.

A power system study shall be included by the distribution equipment manufacturer with the new equipment, including short circuit, protective device, time-current coordination, and arc flash analysis with field markings.

The short circuit analysis component shall include the calculation of the maximum RMS symmetrical three-phase short circuit current at each significant location in the electrical system. The resulting values from the study inform the ratings for the new equipment specified.

The time-current coordination analysis shall be performed to determine appropriate settings, ratings, and types of overcurrent protective devices within the new equipment. The analysis shall evaluate the degree of the system protection and service continuity of the existing overcurrent devices and provide recommendations for increasing system protection and device coordination.

Finally, the results of the short circuit analysis and protective device time current coordination analysis shall produce the necessary flash hazard boundaries. This information shall be printed on arc flash hazard warning labels and applied to the new distribution equipment.

Infrared scanning of all major equipment such as switchboards, fusible switches, panelboards, transformers, motor starters, etc., shall be performed after the installation of the new equipment to measure temperature and detect significant deviations from normal values. Adjustments and torque tightening shall be performed as required.

A new grounding electrode system shall also be installed together with the new electrical service. It shall consist of grounding conductors,



Radio Tower / Projection Room Power Panel



Typical Company Switch



K-13 Rated Isolation Transformer

ground rods, main service grounding and bonding and grounding of separately derived services. The system shall be tested to a reading of less than 5 ohms at the ground level.

Ground rods shall be a minimum size of 5/8" x 10'-0" copper clad steel. Interconnection of the service ground, system neutral and equipment ground conductors shall be made within the service equipment enclosure. All connections to the grounding system shall be exothermically welded. All wiring devices shall have a separate insulated grounding conductor connected to this system.

Vibration isolation shall be installed on all new electrical equipment, in all noise-producing rooms and on noise-producing equipment. Vibration isolation is intended to prevent noise and vibration from transferring into the building structure and radiating as noise in other parts of the building.

Emergency Power Distribution – New Work

In lieu of the battery-operated emergency lighting system, it is recommended that a new emergency power distribution system be provided together with the upgraded electric service. The emergency system shall consist of a natural gas, emergency/standby generator set rated 50kW, 208Y/120V-3Ø-4W.

The generator shall be located on the basement level in the area below the stage. The emergency system shall include a 225A, 4-pole, automatic transfer switch, and related 225A, 208Y/120V-3Ø-4W branch circuit panelboard. A separate 100A, 208Y/120V-3Ø-4W branch circuit panelboard and emergency lighting transfer system for house and lobby emergency lighting shall also be provided.

The emergency system shall serve the following loads:

- Exit signage
- Emergency and Egress lighting
- Fire Alarm System
- Security System

Acceptable generator manufacturers shall be Caterpillar, Kohler or Onan. Acceptable transfer switch manufacturers shall be Caterpillar, Emerson/ASCO Power Technologies, GE Zenith Controls, Kohler, Onan or Russelectric.

Lighting System – New Work

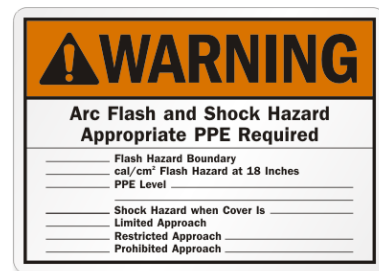
- *Exterior:* "Goshen" marquee shall be refurbished and reinstalled with new, retrofit LED style, socket lamps. New controls shall be provided, including marquee controller. The exterior city standard, ornamental street lights shall remain.
- *Main Entry Vestibule:* The entry vestibule fixtures shall be replaced with new decorative fluorescent fixtures.
- *First Floor:* New recessed fluorescent troffers shall be provided.
- *Main Lobby:* The decorative fluorescent pendant bowl luminaires shall be replaced with new.
- *Auditorium:* The decorative incandescent recessed lights on



Architectural Edge-Lit LED Exit Sign



Main Electric Service TVSS Device



Arc Flash Warning Label per NFPA 70E



Occupancy Sensor

ceiling beams, pendant, and surface-mounted fixtures under balcony, and residential ceiling fans with integral incandescent lights shall be replaced with new quartz downlights. Accent lighting on balcony face and proscenium arches shall remain however, lamps shall be replaced with new retrofit, dimmable long life, LED style, socket lamps with new sockets, and new wiring. The decorative wall sconces shall be refurbished.

- **Stage:** See theatrical section for new scope description.
- **Mechanical:** Incandescent porcelain sockets shall be replaced with new retrofit, LED style lamps. The industrial fluorescent fixtures shall remain.
- **Basement Playschool:** Recessed fluorescent troffers, and incandescent track accent lighting shall remain.
- **Third Floor:** The dance/rehearsal space recessed fluorescent troffers shall remain.

Lighting fixtures and associated branch circuit wiring shall be provided for the following areas:

- Performance areas including but not limited to auditorium, stage, and other technical areas. (NOTE: Lighting referred to herein relates to general area "non-show" lighting.)
- Aisle lighting shall be provided in the auditorium by incorporating lights within new seats and/or by providing wall mounted step lights. All low voltage seat lighting shall include remote transformers rated 120V-1Ø and shall be connected to the emergency generator.
- Public areas including, but not limited to, lobbies, restrooms, and concessions.
- Performer's support area including but not limited to dressing rooms (including toilet and showers), green room, wardrobe, rehearsal room, and laundry room.
- Dressing rooms will be provided with ceiling mounted fluorescent fixtures. In addition, incandescent "marquee" type light bars will be provided at all dressing tables.
- Administration areas including but not limited to housekeeping, offices, electrical/mechanical rooms, and equipment/storage areas.

New specification grade luminaires shall be provided in all new support spaces. Luminaires used in non-public areas (offices, workrooms, storage, projection rooms, etc.) shall be a combination of lay-in, indirect/direct, fluorescent troffers and/or compact-fluorescent downlights. Control shall be by local switching, occupancy sensors and/or controllable breakers. Local, low-level, task lighting shall be accomplished where required with long life LED lamp sources.

Work shall include new multiple lighting control locations for the theatre, as well as the main lobby. The dimming system shall also control all restroom lighting with on/off control. Raceway accommodations, back-boxes, faceplates, and appurtenances for ethernet and data cabling between dimming system cabinets and various remote control stations shall be provided.

All support spaces shall be updated with automatic lighting control strategies. Lighting controls result in energy savings of more than 30% and reduce building operating cost by 10% or more. Lighting control shall be by local override switching, occupancy sensors and/or



Ground Clamps and Rods



Natural Gas Emergency Generator



Automatic Transfer Switch



Emergency Lighting Transfer System

relay panels. Lighting shall be designed to turn-off during unoccupied times. Areas with access to natural light shall be controlled by daylight harvesting which incorporates sensing of natural light to adjust the level of artificial lighting. It is recommended that a lighting dimmer control system with photo-sensitive control be installed in such areas.

Target Lighting Levels in Foot-Candles (fc)	
Location and Tasks	Maximum Illuminance (Horizontal)
Auditoriums – Assembly	10
Auditoriums – Social activity	5
Conference Rooms – Meeting	30
Conference Rooms – Video Conference	50
Offices - Filing	50
Offices – Open office plan intensive VDT use	30
Offices – Open office plan intermittent VDT use	50
Offices – Private office	50
Offices – Lobbies, lounges, and reception areas	10
Reading – Photocopies	30
Reading – Ball-point pen	30
Toilets and washrooms	5
Maintenance	50
Service spaces – Stairways, corridors	5

Existing battery-operated emergency lighting units and exit signs shall be disconnected and removed. New emergency lighting circuits for renovated public areas shall be provided including theatres, lobbies, restrooms, etc. Circuits shall be fed from a natural gas emergency generator via emergency lighting transfer systems as manufactured by Electronic Theater Controls, ASCO Power Technologies, Stagecraft Industries, Strand Lighting or Union Connector.

Emergency lighting in all other areas shall be fed from the emergency generator via individual emergency transfer devices as manufactured by Bodine, Lighting Control and Design, LVS Inc., or Nine 24 Inc. Where emergency lighting in public areas cannot be provided from the emergency generator as described herein, self-contained, concealed, recessed, unitized emergency lighting fixtures shall be provided as manufactured by Concealite or Emergilite, Inc.

Fire Alarm System – New Work

A new voice annunciated fire alarm system shall be provided consisting of an addressable, microprocessor based central processing unit, remote annunciator panels and power extender panels. The system shall use closed loop initiating device circuits with individual zone supervision, individual indicating appliance circuit supervision, and incoming and standby power supervision.



Fire Alarm Control Panel



Fire Alarm Smoke Detector and A/V Appliance

Area coverage shall be accomplished by manual pull stations, sprinkler system flow switches, smoke detectors, combination fixed temperature and rate of rise heat detectors, and duct-type smoke detectors with remote alarm stations for mechanical HVAC equipment moving large volumes of air. Audio/visual appliances (speaker/strobes), audio only appliances (speakers) and visual only notification appliances (strobes) shall be installed where required.

The system shall perform the following functions:

- Supervise and monitor all intelligent/addressable detectors, manual pull stations, tamper switches, flow switches, control modules and monitor modules for normal, trouble and alarm conditions.
- Addressable, duct-type photoelectric smoke detectors, sampling tubes, and remote test stations shall be provided for all HVAC units rated for 2000 cfm or larger for unit shutdown. Furnish smoke detector head with one (1) set of normally closed and one (1) set of normally open, 125-volt rated auxiliary contacts. Duct-type smoke detector shall be furnished by electrical contractor, mounted by HVAC contractor, and wired by electrical contractor.
- Visually and audibly annunciate any trouble, supervisory, or alarm condition on fire alarm control panels and serial LCD remote annunciators located at building entrance as well as automatically dial out to local fire department or a third party monitoring service per local requirements.
- Illuminate all theatre and lobby lights to full intensity upon alarm signal.
- Shutdown all audio systems upon alarm signal.
- Provide annunciation through the audio/visual appliances.
- Provide monitoring of fire suppression systems.

The fire alarm system shall be complete, code-compliant, and be designed in accordance with the International Building Code, NFPA-72 and NFPA-909. Acceptable fire alarm system manufacturers shall be Gamewell, General Electric, Notifier, Siemens/Cerberus or SimplexGrinnell.

Telecommunications System

A new telephone/telecommunications service point of minimum-presence (POMP) shall be established. It shall be provided with service related terminal board(s) with #6 cu. (minimum) connected to building grounding electrode system provided above. As a minimum, the terminal board shall be 4'x 8'x 3/4" thick plywood, painted on both sides and all edges with flame-retardant paint.

The main communication system shall include the following:

- Raceway system from the telecommunications service provider's common service facilities (pole, manhole, cabinet, etc.) to the POMP for the serving utility's cables.
- Raceway accommodations for all interior telecommunications and data cabling.
- Accommodations for telecomm/data (T/D) outlets in locations and in sufficient quantities. Typically, T/D accommodations include a stamped-steel, 4"x 4", flush-mounted box mounted at 18" above finished floor, single-gang plaster ring, blank

cover plate, and one (1) 3/4" empty conduits stubbed into an accessible ceiling space.

- Faceplates and jacks on T/D outlets as specified by the Owner. Provide blank cover-plates over all unused outlet boxes.

All telephone handsets and head-end communications systems including equipment racks, punch down blocks, patch panels, routers, wiring hubs, wire management channels, cable trays, cabling, computer workstations and other additional related hardware and software, etc., shall be the responsibility of the Owner.

GOSHEN THEATER SPACE PROGRAM SUMMARY

	Space Name / Type / Description	Net Sq. Ft. (NSF)	Notes / Comments
	PUBLIC SPACES		
	B Social Hall	1,220	
	1 Theater Lobby	580	
	1 Expanded Lobby	333	
	1 Ticket Sales Lobby	135	
	3 Dance Hall/Rehearsal	1,947	
	Subtotal	4,215	
	PATRON SERVICES		
	B Toilet Room 1	40	
	B Toilet Room 2	45	
	1 Ticket Sales	167	
	1 Business Manager Office	140	
	1 House Manager Office	142	
	1 Concessions	180	
	1 Womens Rest Room	154	
	1 Mens Rest Room	132	
	2 Toilet Room 1	64	
	2 Toilet Room 2	60	
	Subtotal	1,124	
	THEATER		
	Audience Chamber		
	1 Orchestra Level	3,163	
	2 Balcony Level	2,006	
	Stage / Proscenium		
	1 Stage	2,665	
	Subtotal	7,834	
	BACK OF HOUSE		
	B Orchestra Pit	217	
	B Repair Shop	413	
	B Dimmer Room	73	
	B Amp Room	68	
	B Laundry/Wardrobe	88	
	B Toilet Room 1	57	
	B Toilet Room 2	57	
	B Dressing Room 1	324	
	B Dressing Room 2	323	
	1 Toilet Room 1	50	
	1 Toilet Room 2	90	
	1 Dressing Room 1	128	
	1 Dressing Room 2	164	
	1 Shared Toilet/Shower Room	76	
	1 Green Room/Crew	184	
	1 Stage Manager Office	80	
	3 Projection/Control Room	206	
	3 Catering/Warming	196	
	Subtotal	2,794	

GOSHEN THEATER SPACE PROGRAM SUMMARY

	Space Name / Type / Description	Net Sq. Ft. (NSF)	Notes / Comments
	COMMERCIAL		
	3 Office 1	70	
	3 Office 2	153	
	3 Office 3	404	
	3 Office 4	194	
	3 Office 5	170	
	3 Conference Room	824	
	Subtotal	5,783	
	STORAGE		
	B Storage Area 1	56	Main Basement
	B Storage Area 2	24	Main Basement
	B Storage Area 3	25	Main Basement
	B Storage Area 4	69	Main Basement
	B Storage Area 5	155	Main Basement
	B Storage Area 6	162	Main Basement
	B Storage Area 7	103	Theater Basement
	B Storage Area 8	108	Theater Basement
	1 Storage Area 1	50	Theater Lobby
	1 Storage Area 2	31	Audience Chamber
	1 Storage Area 3	64	Back of House
	2 Storage Area 1	49	
	2 Storage Area 2	39	
	3 Storage Area 1	197	
	3 Storage Area 2	28	
	3 Storage Area 3	16	
	3 Storage Area 4	150	
	Subtotal	1,326	
	BUILDING SUPPORT		
	B Mechanical Room 1	712	Main Basement
	B Mechanical Room 2	200	Theater Basement
	B Electrical Room 1	62	Main Basement
	B Electrical Room 2	87	Theater Basement
	B Boiler Room	189	
	1 Electrical Room	9	
	Subtotal	1,259	

Total Building Net Square Footage (NSF)	24,335	
Basement Level GSF	8,544	Including Menno Bldg expansion (1,331 GSF)
Level 1 GSF	11,534	Including Menno Bldg expansion (1,316 GSF)
Level 2 GSF	5,882	
Level 3 GSF	3,708	
Actual Total GSF	29,668	
Gross Square Footage Multiplier	1.219	Corridors, Walls, HVAC Chases, etc.

ESTIMATE DISCLAIMER:

Our estimate is based on our interpretation of the drawings, specifications, narratives, emails, addenda and verbal instructions as provided by the design professionals. Since we have no control over the cost of labor, materials or over the contractor's method of determining prices, or over competitive bidding or market conditions, our opinions of probable construction costs are made on the basis of our expertise, experience and qualifications. These opinions represent our best judgment as professionals familiar with the construction industry. However, we cannot and do not guarantee that proposals, bids or the construction costs will not vary from our opinions of probable construction costs.

To obtain a meaningful "Bid Day" reconciliation, our Estimate would require our thorough review of all of the "As Bid" documents provided to the contractors, i.e.; addenda, RFI's, etc. We can provide this additional service upon request.

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ABBREVIATIONS LEGEND:

The following list defines some of the abbreviations found in the attached estimate.

ACT:	Acoustical Ceiling Tile	LEED:	Leadership in Energy & Environmental Design
AHU:	Air Handling Unit	LF:	Linear Foot (Feet)
ALT:	Alternate	LFR:	Linear Foot Riser (Stairs)
AWI:	Architectural Woodworking Institute	LS:	Lump Sum
BCW:	Branch Circuit Wiring	MD:	Man Day
BGSF:	Building Gross Square Feet	MEP:	Mechanical/Electrical/Plumbing
BLDG:	Building	MNHR:	Man Hour (s)
CF:	Cubic Foot (Feet)	MO:	Month (s)
CFM:	Cubic Feet per Minute	MSB:	Main Switch Board (s)
CMU:	Concrete Masonry Unit	MS:	Metal Stud
CY:	Cubic Yard	OPNG:	Opening (s)
DEV:	Device (s)	ORD:	Overflow Roof Drain
DDC:	Direct Digital Control	PNL:	Panel
DGSF:	Departmental Gross Square Feet	PPG:	Piping
DI:	Deionized	PVC:	Polyvinyl chloride
DR:	Door (s)	RD:	Roof Drain
EA:	Each	RO:	Reverse Osmosis
EMERG:	Emergency	RSR:	Riser
FA:	Fire Alarm	RTU:	Roof Top Unit
FD:	Floor Drain	SF:	Square Foot (Feet)
FF & E:	Fixed Furnishings & Equipment	SFSA:	Square Feet Surface Area
FIXT:	Fixture (s)	SOG:	Slab on Grade
FLIT:	Flight (Stairs)	STA:	Station
GC:	General Conditions	SY:	Square Yard (s)
GFRC:	Glass Fiber Reinforced Concrete	TRANS:	Transformer (s)
GRCMU:	Grouted, Reinforced CMU	VCT:	Vinyl Composition Tile
GSF:	Gross Square Feet	VLF:	Vertical Linear Foot (Feet)
GWB:	Gypsum Wall Board (Drywall)	VWC:	Vinyl Wall Covering
HM:	Hollow Metal	YR:	Year (s)
HVAC:	Heating, Ventilation & Air Conditioning		
LAV:	Lavatory		
LBS:	Pounds		

Project:	Goshen Theater <i>Renovations</i> Goshen, Indiana			PICS June 4, 2012 PCS Project: 12-084 Lead: TK/BL Checked: KL	
Design:	Westlake, Reed, Leskosky				
SUMMARY of "CONCEPTUAL ESTIMATE"					
DIVISION	<u>BUILDING COMPONENT</u>	PAGES	COST PER SF	<u>TOTALS</u> 27,120 GSF	
1.0	GENERAL CONDITIONS	---	---	- See Below -	
2.0	SITE WORK and DEMOLITION	1	\$ 9.95	\$ 269,712	
3.0	EXCAVATION and FOUNDATION SYSTEMS	2	\$ 1.83	\$ 49,725	
4.0	STRUCTURAL SYSTEMS	3	\$ 3.47	\$ 94,000	
5.0	EXTERIOR WALL, DOOR and GLASS SYSTEMS	4	\$ 9.91	\$ 268,650	
6.0	THERMAL and MOISTURE PROTECTION SYSTEMS	5	\$ 0.83	\$ 22,500	
7.0	ROUGH CARPENTRY and MISCELLANEOUS METALS	6	\$ 3.45	\$ 93,510	
8.0	INTERIOR WALL, DOOR and GLASS SYSTEMS	7	\$ 10.57	\$ 286,564	
9.0	FLOOR, WALL and CEILING FINISHES	8	\$ 18.62	\$ 505,054	
10.0-12.0	FIXED EQUIPMENT and SPECIALTIES	9	\$ 7.88	\$ 213,730	
14.0	CONVEYING SYSTEMS	10	\$ 2.77	\$ 75,000	
15.0	MECHANICAL SYSTEMS:				
	- Plumbing	11	\$ 9.61	\$ 260,742	
	- Fire Protection	12	\$ 3.93	\$ 106,558	
	- H.V.A.C.	13	\$ 34.77	\$ 943,064	
16.0	ELECTRICAL SYSTEMS	14	\$ 26.64	\$ 722,591	
SUBTOTAL ALL TRADES WORK (Prevailing Wage Assumed)			\$ 144.23	\$ 3,911,400	
LEED CERTIFICATION; SILVER; Allowance		---	---	- NIC -	
THEATRICAL AND A/V EQUIPMENT; Per WRL				\$ 1,187,345	
PHASING PREMIUM		5.00%	\$ 9.40	\$ 254,938	
GENERAL CONDITIONS for DIVISIONS 2 thru 16		8.00%	\$ 15.79	\$ 428,295	
CONTRACTOR BOND, OVERHEAD and PROFIT for DIVISIONS 2 thru 16		5.00%	\$ 10.66	\$ 289,099	
ESCALATE to MIDPOINT of CONST'N (Start April, 2013; 12 Mo.; 5% per Year)		6.68%	\$ 14.95	\$ 405,333	
CONTINGENCY: DESIGN, ESTIMATING, BIDDING and MARKET CONDITIONS		10.00%	\$ 23.88	\$ 647,641	
TOTAL PROBABLE CONSTRUCTION COSTS:			\$ 262.69	\$ 7,124,051	
PROJECT COST ADDERS: (Soft Costs)					
CONSTRUCTION CHANGE ORDER CONTINGENCY; (Unforeseen Conditions)			7.00%	\$ 498,684	
CITY OF GOSHEN PERMIT FEE				- By Owner -	
A/E and OTHER CONSULTANTS' FEES and REIMBURSABLES				???	
CONSTRUCTION MANAGEMENT FEE				???	
MATERIALS and SOILS TESTING; Allow				???	
SEWER and TAP FEES, PERMITS and ETC.				???	
FF & E: FURNITURE, SHELVING, RACKS and ETC.				???	
COMPUTERS, SOFTWARE, TELEPHONES and OTHER TELEDATA EQUIPMENT				???	
LEGAL FEES, BOND COUNCIL, OWNER'S RISK INSURANCE, PUBLISHING, ETC.				???	
OWNER COSTS FOR FINAL CLEANING and MOVE-IN				???	
ASBESTOS, LEAD and OTHER HAZARDOUS MATERIALS ABATEMENTS				???	
TOTAL PROBABLE PROJECT COSTS:				???	

This estimate is based on the documents dated April 13, 2012, conversations with the design team and our best assumptions at this time.

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Project:	Goshen Theater <i>Renovations</i> Goshen, Indiana		PROJECT DATA: Building: - Renovations: 27,120 GSF			PICS June 4, 2012 PCS Project: 12-084 Estimated: TK Checked: KL	
Design:	Westlake, Reed, Leskosky						
2.0 SITEWORK and DEMOLITION:			"Conceptual Estimate"				
	ITEM DESCRIPTION	QTY	UNIT	UNIT COST*	TOTAL	COMMENTS	
A. SITE WORK:							
	- ALLOW for fenced lay-down area	1	LS	\$ 10,000.00	\$ 10,000		
	- ALLOW for sidewalk repairs and miscellaneous site modifications	1	LS	\$ 10,000.00	\$ 10,000		
	- ALLOW to re-grade at east alley to divert water and to re-pave	1	LS	\$ 20,000.00	\$ 20,000		
B. DEMOLITION:							
	- Basement:						
	- "Gut" spaces	7310	SF	\$ 6.00	\$ 43,860		
	- Sawcut and remove basement floor slab for new elevator pit	80	SF	\$ 25.00	\$ 2,000		
	- Sawcut and remove perimeter basement walls for pass-throughs	2	EA	\$ 1,500.00	\$ 3,000		
	- Remove stairs	1	EA	\$ 1,500.00	\$ 1,500		
	- First Floor:						
	- "Gut" spaces	11050	SF	\$ 6.00	\$ 66,300		
	- Remove floor construction for new elevator shaft	80	SF	\$ 25.00	\$ 2,000		
	- Sawcut and remove perimeter exterior walls for pass-through	1	EA	\$ 1,500.00	\$ 1,500		
	- Second Floor:						
	- "Gut" spaces; portion affected	5555	SF	\$ 3.00	\$ 16,665		
	- Remove floor construction for new elevator shaft	80	SF	\$ 25.00	\$ 2,000		
	- Sawcut and remove perimeter exterior walls for pass-through	1	EA	\$ 1,500.00	\$ 1,500		
	- Third Floor:						
	- "Gut" spaces; portion affected	3205	SF	\$ 3.00	\$ 9,615		
	- Remove floor construction for new elevator shaft	80	SF	\$ 25.00	\$ 2,000		
	- Sawcut and remove perimeter exterior walls for pass-through	1	EA	\$ 1,500.00	\$ 1,500		
	- Menno Building:						
	- Remove floor structure at new stairs	200	SF	\$ 25.00	\$ 5,000		
	- ALLOW for dumpsters and trucking, dump fees, cleanup at completion	27120	SF	\$ 0.60	\$ 16,272		
	- ALLOW to remove theatre seats for re-conditioning	1	LS	\$ 5,000.00	\$ 5,000		
	- ALLOW to remove oil storage tank and abate immediate area, as required	1	LS	\$ 50,000.00	\$ 50,000	See Also Excavations and Foundations.	
	2.0	TOTAL, SITEWORK and DEMOLITION:				\$ 269,712	

*Labor and material unless noted otherwise.

Cost Per SF

\$ 9.95

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Project:	Goshen Theater <i>Renovations</i> Goshen, Indiana		PROJECT DATA: Building: - Renovations: 27,120 GSF			PICS June 4, 2012 PCS Project: 12-084 Estimated: TK Checked: KL
Design:	Westlake, Reed, Leskosky					
3.0 EXCAVATION and FOUNDATION SYSTEMS:			"Conceptual Estimate"			
	ITEM DESCRIPTION	QTY	UNIT	UNIT COST*	TOTAL	COMMENTS
A.	EXCAVATIONS:					
	- Hand excavate for new pit; 5' deep	15	CY	\$ 100.00	\$ 1,500	
	- Load to trucks and haul off site, dispose	15	CY	\$ 25.00	\$ 375	
B.	FOUNDATIONS:					
	- Concrete mat slab with sump at new elevator; 12" thick; reinforced	4	CY	\$ 450.00	\$ 1,800	
C.	CONCRETE WALLS:					
	- 8" thick elevator pit walls; formed and reinforced; 4' high	3.6	CY	\$ 1,000.00	\$ 3,600	
D.	SLAB ON GRADE:					
	- ALLOW to patch slab around new elevator shaft	1	LS	\$ 1,500.00	\$ 1,500	
	- ALLOW to patch slab at removed stairs	1	LS	\$ 2,500.00	\$ 2,500	
	- Slab on grade work in Menno Building	- NIC; Existing -				
E.	EXISTING WALLS:					
	- ALLOW to patch perimeter basement walls at new pass-through doors	2	EA	\$ 1,000.00	\$ 2,000	
F.	ANCILLARY SYSTEMS:					
	- Elevator pit waterproofing	150	SF	\$ 5.00	\$ 750	
	- Footer drain with fabric and gravel fill at elevator pit; tie to sump	40	LF	\$ 20.00	\$ 800	
	- ALLOW to remove pavement, excavate, clean basement walls and re-waterproof basement walls along east alley	1	LS	\$ 20,000.00	\$ 20,000	
G.	OIL TANK REMOVAL:					
	- Excavate along basement wall for tank access, dispose	60	CY	\$ 20.00	\$ 1,200	
	- Remove basement wall and access-ways; sawcut	200	SF	\$ 25.00	\$ 5,000	
	- Rebuild walls and delete areaways	1	LS	\$ 4,000.00	\$ 4,000	
	- Waterproof walls and rework / repair footer drains as necessary	20	LF	\$ 100.00	\$ 2,000	
	- Backfill with premium fill; compact	60	CY	\$ 45.00	\$ 2,700	
3.0	TOTAL, EXCAVATION and FOUNDATION SYSTEMS:				\$ 49,725	

*Labor and material unless noted otherwise.

Cost Per SF

\$ 1.83

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Project:	Goshen Theater <i>Renovations</i> Goshen, Indiana		PROJECT DATA: Building: - Renovations: 27,120 GSF			PICS June 4, 2012 PCS Project: 12-084 Estimated: TK Checked: KL
Design:	Westlake, Reed, Leskosky					
4.0 STRUCTURAL SYSTEMS:			"Conceptual Estimate"			
	ITEM DESCRIPTION	QTY	UNIT	UNIT COST*	TOTAL	COMMENTS
A.	EXISTING SYSTEMS:					
	- ALLOW to patch and brace around new elevator shaft; replace floor construction as may be required	3	Levels	\$ 2,500.00	\$ 7,500	
	- ALLOW to reinforce roof or for new dunnages at new rooftop equipment	1	LS	\$ 5,000.00	\$ 5,000	
	- ALLOW to patch in first floor where stairs to basement removed	100	SF	\$ 35.00	\$ 3,500	
	- ALLOW to reinforce marquee supporting structure as may be required	1	LS	\$ 7,500.00	\$ 7,500	
	- ALLOW to support new exterior exit stairs that replace fire escapes	2	EA	\$ 3,500.00	\$ 7,000	
	- ALLOW to reinforce floor structure around new Menno stairs	2	Levels	\$ 2,500.00	\$ 5,000	
	- ALLOW to reinforce main house floor to relieve "springy" condition; beam and joist work, no new footers or columns; work in crawl space	3900	SF	\$ 15.00	\$ 58,500	Wood or steel reinforcing
4.0	TOTAL, STRUCTURAL SYSTEMS:				\$ 94,000	

*Labor and material unless noted otherwise.

Cost Per SF

\$ 3.47

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Project:	Goshen Theater <i>Renovations</i> Goshen, Indiana	PROJECT DATA: Building: - Renovations: 27,120 GSF		P C S June 4, 2012 PCS Project: 12-084 Estimated: TK Checked: KL		
Design:	Westlake, Reed, Leskosky					
5.0 EXTERIOR WALL, DOOR and GLASS SYSTEMS:		"Conceptual Estimate"				
	ITEM DESCRIPTION	QTY	UNIT	UNIT COST*	TOTAL	COMMENTS
A. WEST AND SOUTH ELEVATIONS: - Replace south elevation doors, frames and hardware; Note 1 - Replace west elevations doors, frames and hardware; not noted, assumed; historical match as close as is practical; Goshen Building only - Replace windows; remove infills or existing windows; assumes that note 2, "repair," will require replacements; notes 2, 3 - New fire escapes; note 4 - Tuckpoint and seal; assumes varying degree of degradation; includes all sides of stage house - Miscellaneous painting, caulk, etc. - ALLOW to remove "stone" veneer at front of theatre; replace or repair stone substrate; caulk, seal, tie to existing adjacent systems - ALLOW to paint and repair marquee as required						
		8	Leaf	\$ 2,000.00	\$ 16,000	
		7	Leaf	\$ 4,000.00	\$ 28,000	
		330	SF	\$ 60.00	\$ 19,800	
		- See Miscellaneous Metals -				
		13400	SF	\$ 6.00	\$ 80,400	
		1	LS	\$ 10,000.00	\$ 10,000	
		370	SF	\$ 100.00	\$ 37,000	
		1	LS	\$ 5,000.00	\$ 5,000	
B. EAST AND NORTH ELEVATIONS: - ALLOW to tuckpoint, some serious deterioration; include painting, sealing, caulk; ALLOW for replacing or repairing doors and windows						
		10350	SF	\$ 7.00	\$ 72,450	
5.0	TOTAL, EXTERIOR WALL, DOOR and GLASS SYSTEMS:				\$ 268,650	

*Labor and material unless noted otherwise.

Cost Per SF

\$ 9.91

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Project:	Goshen Theater <i>Renovations</i> Goshen, Indiana		PROJECT DATA: Building: - Renovations: 27,120 GSF		PICS June 4, 2012 PCS Project: 12-084 Estimated: TK Checked: KL	
Design:	Westlake, Reed, Leskosky		"Conceptual Estimate"			
6.0 THERMAL and MOISTURE PROTECTION SYSTEMS:						
	ITEM DESCRIPTION	QTY	UNIT	UNIT COST*	TOTAL	COMMENTS
A.	EXISTING SYSTEMS:					
	- Roof replacements with flashings and copings	- NIC; To Remain -				
	- ALLOW to patch around new rooftop equipment	1	LS	\$ 5,000.00	\$ 5,000	
	- ALLOW to repair marquee roof system as may be required	1	LS	\$ 2,500.00	\$ 2,500	
	- ALLOW to rework and refurbish smoke hatches	2	EA	\$ 7,500.00	\$ 15,000	

*Labor and material unless noted otherwise.

Cost Per SF

\$ 0.83

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Project:	Goshen Theater <i>Renovations</i> Goshen, Indiana		PROJECT DATA: Building: - Renovations: 27,120 GSF		PICS June 4, 2012 PCS Project: 12-084 Estimated: TK Checked: KL	
Design:	Westlake, Reed, Leskosky					
7.0 ROUGH CARPENTRY and MISCELLANEOUS METALS:			"Conceptual Estimate"			
	ITEM DESCRIPTION	QTY	UNIT	UNIT COST*	TOTAL	COMMENTS
A.	ROUGH CARPENTRY:					
	- ALLOW for interior wall blocking at toilet room accessories, casework, wall protection systems and other wall or ceiling-supported items	27120	SF	\$ 0.50	\$ 13,560	
	- Roof blocking	- NIC; Roof to Remain -				
B.	MISCELLANEOUS METALS:					
	- Elevator pit ladder	1	EA	\$ 750.00	\$ 750	
	- Elevator door frames and sill angles	4	Sets	\$ 800.00	\$ 3,200	
	- Exterior stairs at south elevation; ALLOW for open grating stairs and landings; all railings and attachments	3	Flights	\$ 20,000.00	\$ 60,000	
	- New metal pan stairs at Menno Building; with pan fills, railings, etc.	2	Flights	\$ 8,000.00	\$ 16,000	
7.0	TOTAL, ROUGH CARPENTRY and MISCELLANEOUS METALS:				\$ 93,510	

*Labor and material unless noted otherwise.

Cost Per SF

\$ 3.45

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Project:	Goshen Theater <i>Renovations</i> Goshen, Indiana		PROJECT DATA: Building: - Renovations: 27,120 GSF		P C S June 4, 2012 PCS Project: 12-084 Estimated: CL Checked: KL	
Design:	Westlake, Reed, Leskosky					
8.0 INTERIOR WALL, DOOR and GLASS SYSTEMS:			"Conceptual Estimate"			
	ITEM DESCRIPTION	QTY	UNIT	UNIT COST*	TOTAL	COMMENTS
A. INTERIOR WALL SYSTEMS:						
	- Type 1; 3½" metal stud; two layers ⅝" GWB with 3½" sound batt insulation	13496	SF	\$ 6.95	\$ 93,798	
	- Type 2; 3⅝" metal stud; one layer ⅝" GWB with 3½" sound batt insulation	7637	SF	\$ 5.35	\$ 40,858	
	- Type 3; 8" CMU; grouted and reinforced at 4' o.c.	1908	SF	\$ 9.00	\$ 17,172	
	- Patch to existing	1	LS	\$ 15,000.00	\$ 15,000	Allow
B. INTERIOR DOOR SYSTEMS:						
	- Aluminum framed glass doors; panic hardware	5	Pair	\$ 5,000.00	\$ 25,000	
	- ADA auto operators	2	EA	\$ 4,000.00	\$ 8,000	
	- SC wood or HM leaf in welded / grouted HM frame; hardware					
	- Single 3-0 x 7-0	45	EA	\$ 1,250.00	\$ 56,250	
	- Double 6-0 x 7-0	5	Pair	\$ 2,350.00	\$ 11,750	
	- Fire rated doors; premium	10	EA	\$ 300.00	\$ 3,000	Allow
	- Sound rated doors; premium	10	EA	\$ 200.00	\$ 2,000	Allow
	- ADA panic device	5	EA	\$ 500.00	\$ 2,500	Allow
	- Access panels	1	LS	\$ 2,500.00	\$ 2,500	Allow
	- Coiling counter door; manual; 5-0 x 10-0	1	EA	\$ 5,000.00	\$ 5,000	Allow
C. GLASS SYSTEMS:						
	- Door lites	20	EA	\$ 70.00	\$ 1,400	Allow
	- Borrow lites in aluminum framing	32	SF	\$ 28.00	\$ 896	
	- Wall mounted mirrors at large toilet rooms	80	SF	\$ 18.00	\$ 1,440	
8.0	TOTAL, INTERIOR WALL, DOOR and GLASS SYSTEMS:				\$ 286,564	

*Labor and material unless noted otherwise.

Cost Per SF

\$ 10.57

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Project:	Goshen Theater <i>Renovations</i> Goshen, Indiana		PROJECT DATA: Building: - Renovations: 27,120 GSF			PICS June 4, 2012 PCS Project: 12-084 Estimated: CL Checked: KL
Design:	Westlake, Reed, Leskosky					
9.0 FLOOR, WALL and CEILING FINISHES:			"Conceptual Estimate"			
	ITEM DESCRIPTION	QTY	UNIT	UNIT COST*	TOTAL	COMMENTS
A. FLOORING:						
	- Carpet; broadloom 32 oz. glue-down	5697	SF	\$ 3.50	\$ 19,940	
	- VCT	1090	SF	\$ 2.50	\$ 2,725	
	- Thinset ceramic tile	1363	SF	\$ 9.50	\$ 12,949	
	- Welded seam sheet vinyl	4494	SF	\$ 6.50	\$ 29,211	
	- Sealer at mechanical rooms	5558	SF	\$ 0.65	\$ 3,613	
	- Walk off entry mats	215	SF	\$ 35.00	\$ 7,525	
	- Stage flooring	2813	SF	\$ 25.00	\$ 70,325	
	- Patch / repair / refinish dance hall wood floor	2028	SF	\$ 10.00	\$ 20,280	
	- Patch to match existing flooring	1	LS	\$ 5,000.00	\$ 5,000	
B. BASE:						
	- Applied resilient base	4189	LF	\$ 1.95	\$ 8,169	
	- Ceramic tile base	614	LF	\$ 8.50	\$ 5,219	
	- Wood base; dance hall	200	LF	\$ 10.00	\$ 2,000	
C. WALL FINISHES:						
	- Paint base and two coats	48750	SF	\$ 0.75	\$ 36,563	
	- Ceramic wall tile	5833	SF	\$ 9.50	\$ 55,414	
	- Chamber wall and ceiling repair; allow minor to medium level repair	1	LS	\$ 25,000.00	\$ 25,000	Allow
	- Premium finishes epoxy, etc.	1	LS	\$ 10,000.00	\$ 10,000	Allow
D. CEILING SYSTEMS:						
	- Suspended flat drywall; painted	4399	SF	\$ 9.00	\$ 39,591	
	- ACT; 2'x4'; 15/16" grid	1295	SF	\$ 3.00	\$ 3,885	
	- ACT; 2'x2'; 15/16" grid	7408	SF	\$ 3.25	\$ 24,076	
	- Painted exposed structure	5916	SF	\$ 1.15	\$ 6,804	
	- Refurnish / paint metal ceiling in dance hall	2033	SF	\$ 5.00	\$ 10,165	
	- Framed drywall soffits	1	LS	\$ 5,000.00	\$ 5,000	Allow
E. MISCELLANEOUS:						
	- Paint doors and frames	55	Leaf	\$ 120.00	\$ 6,600	
	- Stair finishes	10	Flits	\$ 1,500.00	\$ 15,000	Allow
	- Paint metals, handrails; miscellaneous	1	LS	\$ 5,000.00	\$ 5,000	Allow
	- Scaffold at House; to be used by all trades	1	LS	\$ 75,000.00	\$ 75,000	Allow
9.0	TOTAL, FLOOR, WALL and CEILING FINISHES:				\$ 505,054	

*Labor and material unless noted otherwise.

Cost Per SF

\$ 18.62

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Project:	Goshen Theater <i>Renovations</i> Goshen, Indiana		PROJECT DATA: Building: - Renovations: 27,120 GSF			PICS June 4, 2012 PCS Project: 12-084 Estimated: CL Checked: KL
Design:	Westlake, Reed, Leskosky					
10.0-12.0	FIXED EQUIPMENT and SPECIALTIES:		"Conceptual Estimate"			
	ITEM DESCRIPTION	QTY	UNIT	UNIT COST*	TOTAL	COMMENTS
A.	TOILET ROOMS:					
	- Accessories; Large room	2	EA	\$ 2,500.00	\$ 5,000	
	- Accessories; Small room	12	EA	\$ 750.00	\$ 9,000	
	- Toilet partitions; floor mounted; solid plastic; ceiling braced	10	EA	\$ 1,210.00	\$ 12,100	
	- Urinal screens; floor mounted; solid plastic;	3	EA	\$ 560.00	\$ 1,680	
	- Vanity solid surface top and splash; wall mounted; no cabinet; sink by PC	9	LF	\$ 150.00	\$ 1,350	
	- Wall mounted lavatory knee contact shroud	9	LF	\$ 50.00	\$ 450	
	- Shower rod and curtain	3	EA	\$ 190.00	\$ 570	
	- Soap holders at showers; recessed	3	EA	\$ 100.00	\$ 300	
	- Towel bar	3	EA	\$ 100.00	\$ 300	
B.	CASEWORK and MILLWORK:					
	- General P-lam, AWI grade casework base cabinets, countertops and upper cabinets	21	LF	\$ 350.00	\$ 7,350	
	- Work surface, as above; concession counter	10	LF	\$ 150.00	\$ 1,500	
	- Custom counter at ticket sales	13	LF	\$ 500.00	\$ 6,500	
	- Dressing stations	30	EA	\$ 3,500.00	\$ 105,000	
	- Wardrobe hanging racks	5	EA	\$ 500.00	\$ 2,500	
	- Control booth millwork	1	LS	\$ 10,000.00	\$ 10,000	Allow
	- Display cases at hallways; sliding glass doors, stain and finish plywood	20	LF	\$ 500.00	\$ 10,000	Allow
	- Tall open shelves with finished back; 7' tall; repair shop	50	LF	\$ 300.00	\$ 15,000	Allow
	- Window sills; solid surface	1	LS	\$ 2,500.00	\$ 2,500	Allow
C.	KITCHEN EQUIPMENT:					
	- Concession kitchen equipment	1	LS	\$ 7,500.00	\$ 7,500	Allow
D.	MISCELLANEOUS:					
	- Marker boards and tack boards	40	LF	\$ 65.00	\$ 2,600	Allow
	- Signage and graphics	27120	SF	\$ 0.25	\$ 6,780	Allow
	- Fire extinguishers and cabinets	12	EA	\$ 425.00	\$ 5,100	Allow
	- Janitor closet shelving and mop holders	1	Rooms	\$ 650.00	\$ 650	
	- All other interior furnishings and loose equipment not specifically shown	- NIC -				By Owner
	- Labor to install owner furnished equipment	- NIC -				
E.	THEATER EQUIPMENT:	- NIC -				Shown on Summary Sheet
10.0- 12.0	TOTAL, FIXED EQUIPMENT and SPECIALTIES:				\$ 213,730	

*Labor and material unless noted otherwise.

Cost Per SF

\$ 7.88

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This estimate is based on the documents dated April 13, 2012, conversations with the design team and our best assumptions at this time.

Project:	Goshen Theater <i>Renovations</i> Goshen, Indiana		PROJECT DATA: Building: - Renovations: 27,120 GSF			PICS June 4, 2012 PCS Project: 12-084 Estimated: TK Checked: KL
Design:	Westlake, Reed, Leskosky		"Conceptual Estimate"			
14.0 CONVEYING SYSTEMS:						
	ITEM DESCRIPTION	QTY	UNIT	UNIT COST*	TOTAL	COMMENTS
A.	PASSENGER ELEVATOR: - 4-stop hydraulic elevator; 2,500# capacity; one-sided opening; standard platform and cab	1	EA	\$ 75,000.00	\$ 75,000	
B.	OTHER CONVEYING SYSTEMS: - ADA wheelchair lifts - Orchestra pit lift	- NIC - - NIC -				
14.0	TOTAL, CONVEYING SYSTEMS:				\$ 75,000	

*Labor and material unless noted otherwise.

Cost Per SF

\$ 2.77

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This estimate is based on the documents dated April 13, 2012, conversations with the design team and our best assumptions at this time.

Project:	Goshen Theater <i>Renovations</i> Goshen, Indiana			PROJECT DATA: Building: - Renovations: 27,120 GSF			PICIS June 4, 2012 PCS Project: 12-084 Estimated: BL Checked: KL			
Design:	Westlake, Reed, Leskosky			"Conceptual Estimate"						
15.1 PLUMBING:										
ITEM DESCRIPTION				QTY	UNIT	LABOR MH	LABOR EXT	MAT'L UNIT	MAT'L EXT	TOTAL
Fixtures: (54 Each & 3 Showers)				-----						
Water Closet				22.00	EA	5.000	110.00	\$ 500.00	\$ 11,000	\$ 20,680
Lav's				18.00	EA	4.000	72.00	\$ 350.00	\$ 6,300	\$ 12,456
Urinals				2.00	EA	5.000	10.00	\$ 500.00	\$ 1,000	\$ 1,880
Sinks				7.00	EA	6.000	42.00	\$ 575.00	\$ 4,025	\$ 7,686
Showers: Complete				3.00	EA	9.000	27.00	\$ 1,700.00	\$ 5,100	\$ 7,956
Electric Water Cooler				4.00	EA	8.000	32.00	\$ 1,650.00	\$ 6,600	\$ 10,096
Mop Basin				1.00	EA	4.000	4.00	\$ 475.00	\$ 475	\$ 842
Auto-Valves: (WC's, Lavs and Urinals)				42.00	EA	1.500	63.00	\$ 175.00	\$ 7,350	\$ 13,104
Domestic Water Heater, Recirc. Pump & Expansion Tank				1.00	LS	16.000	16.00	\$ 5,500.00	\$ 5,500	\$ 7,688
Thermostatic Mixing Valves				1.00	EA	2.500	2.50	\$ 350.00	\$ 350	\$ 590
Sanitary and Vent: Connect to Existing Main				1.00	LS	8.000	8.00	\$ 500.00	\$ 500	\$ 1,144
Sanitary and Vent Piping and Connections				54.00	EA	8.000	432.00	\$ 295.00	\$ 15,930	\$ 48,492
Floor Drains with Trap Primers				10.00	EA	3.000	30.00	\$ 275.00	\$ 2,750	\$ 5,340
Sump Pump				1.00	LS	12.000	12.00	\$ 2,000.00	\$ 2,000	\$ 3,216
Sewage Ejectors				- NIC -						
Domestic Water: From 5' of Building				1.00	LS	8.000	8.00	\$ 500.00	\$ 500	\$ 1,144
Domestic Water Backflow Preventer				1.00	LS	16.000	16.00	\$ 2,500.00	\$ 2,500	\$ 4,088
Domestic Water Piping and Connections				58.00	EA	7.500	435.00	\$ 265.00	\$ 15,370	\$ 48,024
Wall Hydrants and Hose Bibbs				4.00	Allow	2.500	10.00	\$ 225.00	\$ 900	\$ 1,760
Insulation on Piping				58.00	EA	3.000	174.00	\$ 35.00	\$ 2,030	\$ 14,268
STORM SYSTEM: From 5' of Building				1.00	LS	8.000	8.00	\$ 500.00	\$ 500	\$ 1,144
STORM SYSTEM: Gutters and Downspouts "By G.C."				- NIC -						
STORM SYSTEM: Roof and Overflow Drains and Piping				12.00	EA	16.000	192.00	\$ 1,500.00	\$ 18,000	\$ 34,656
Natural Gas: Meter and Manifold				1.00	LS	16.000	16.00	\$ 1,500.00	\$ 1,500	\$ 2,888
Natural Gas: Piping and Connections to Equipment				3.00	EA	12.000	36.00	\$ 750.00	\$ 2,250	\$ 5,148
Tests, Permits, Cutting and Patching				1.00	EA	16.000	16.00	\$ 1,000.00	\$ 1,000	\$ 2,288
Sleeves, ID, Sterilization, Testing and Permits				1.00	EA	8.000	8.00	\$ 500.00	\$ 500	\$ 1,144
Demo, Cutting, Patching and Core Drilling (In Renovated Areas)				1.00	LS	40.000	40.00	\$ 250.00	\$ 250	\$ 3,020
SUBTOTALS						MNHR	1,820		\$ 114,180	
LABOR RATES AND MARKUPS						\$/HR	\$ 68.00		1.20	
LABOR AND MATERIAL TOTALS							\$ 123,726		\$ 137,016	
TOTAL PLUMBING				Renovation 27,120	SF			Cost per SF \$ 9.61	\$ 260,742	\$ 260,742

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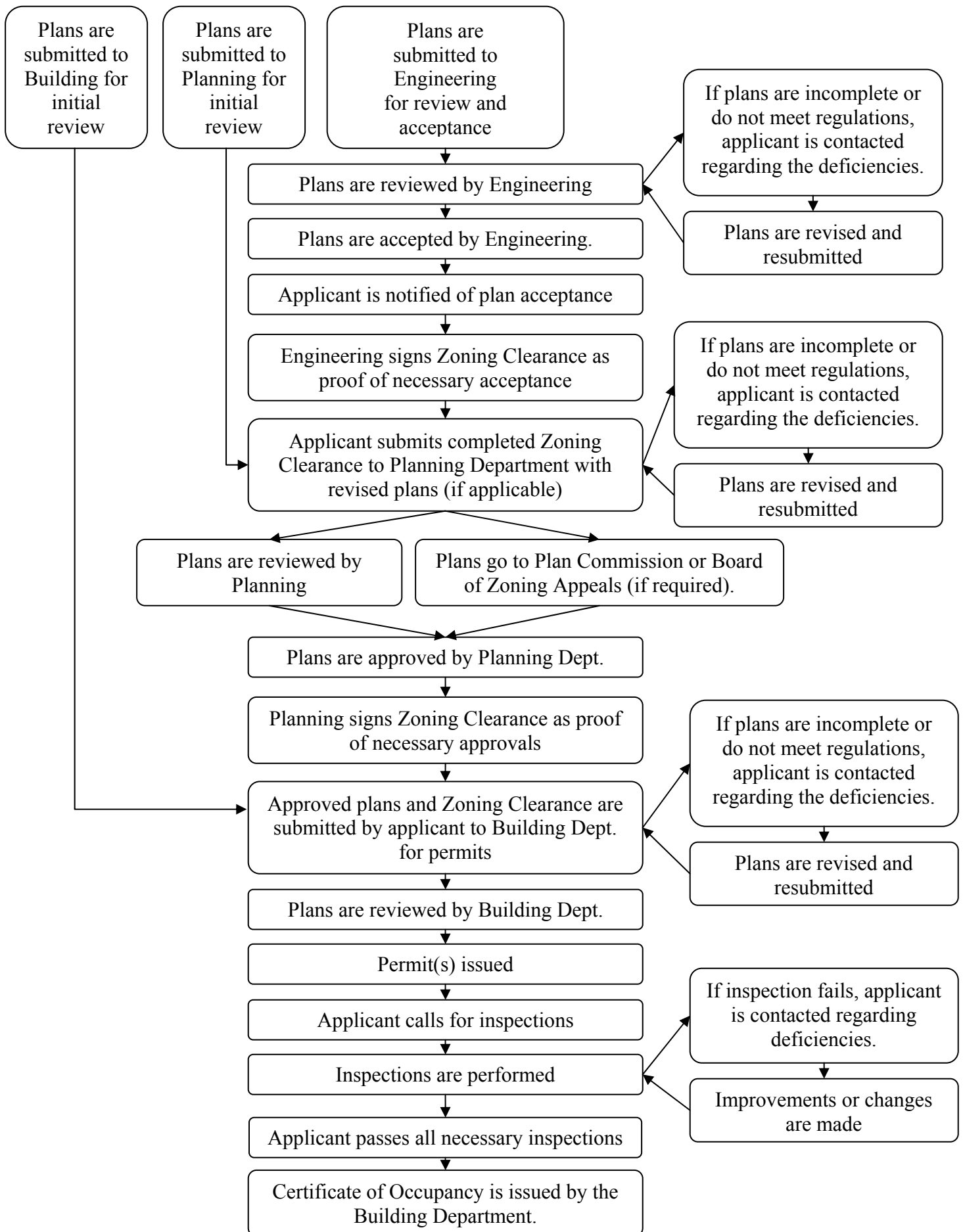
This estimate is based on the documents dated April 13, 2012, conversations with the design team and our best assumptions at this time.

Project:	Goshen Theater <i>Renovations</i> Goshen, Indiana			PROJECT DATA: Building: - Renovations: 27,120 GSF			PICIS June 4, 2012 PCS Project: 12-084 Estimated: BL Checked: KL			
Design:	Westlake, Reed, Leskosky									
15.2 FIRE PROTECTION:				"Conceptual Estimate"						
ITEM DESCRIPTION			QTY						UNIT	LABOR MH
Fire Main to Building; included with sitework			- NIC -							
Fire Main: From 5' of Building			1.00	LS	8.000	8.00	\$ 500.00	\$ 500	\$ 1,226	
New Double Detector Check Assembly			1.00	LS	20.000	20.00	\$ 5,500.00	\$ 5,500	\$ 8,165	
Siamese Connection			1.00	LS	16.000	16.00	\$ 1,750.00	\$ 1,750	\$ 3,352	
Fire Department Connections at the Stage			2.00	EA	8.000	16.00	\$ 750.00	\$ 1,500	\$ 3,052	
Main Shutoff Valve			1.00	LS	8.000	8.00	\$ 500.00	\$ 500	\$ 1,226	
Alarm Valves			1.00	LS	8.000	8.00	\$ 500.00	\$ 500	\$ 1,226	
Flow & Tamper Switches			8.00	EA	2.000	16.00	\$ 250.00	\$ 2,000	\$ 3,652	
Zone Control Assembly			1.00	Allow	8.000	8.00	\$ 1,500.00	\$ 1,500	\$ 2,426	
Stand Pipe:			3.00	EA	20.000	60.00	\$ 1,750.00	\$ 5,250	\$ 10,995	
Fire Pump, Jockey Pump & Accessories; connect to existing			- NIC -							
Test Header & Piping			- NIC -							
Test Drain & Piping			1.00	EA	4.000	4.00	\$ 350.00	\$ 350	\$ 733	
Wet Sprinkler System: (Assume 1 head per 135 SF)			201.00	HDS	3.500	703.50	\$ 30.00	\$ 6,030	\$ 62,285	
Hydraulic Calcs and Field Engineering			201.00	HDS	0.300	60.30	\$ 3.00	\$ 603	\$ 5,442	
Tests, Permits, Id, Etc...			1.00	LS	8.000	8.00	\$ 500.00	\$ 500	\$ 1,226	
Demo, Cutting, Patching and Core Drilling (In Renovated Areas)			1.00	LS	16.000	16.00	\$ 250.00	\$ 250	\$ 1,552	
NOTES:			-----							
Dry Sprinkler System:			- NIC -							
Dry Pipe System Valve and Compressor			- NIC -							
FM-200 or Clean Agent System			- NIC -							
Scaffolding included in Division 9			- NIC -							
SUBTOTALS					MNHR	952		\$ 26,733		
LABOR RATES AND MARKUPS					\$/HR	\$ 78.25		1.20		
LABOR AND MATERIAL TOTALS						\$ 74,478		\$ 32,080		
TOTAL FIRE PROTECTION			Renovation 27,120	SF			Cost per SF \$ 3.93	\$ 106,558	\$ 106,558	

Project:	Goshen Theater <i>Renovations</i> Goshen, Indiana			PROJECT DATA: Building: - Renovations: 27,120 GSF			PICIS June 4, 2012 PCS Project: 12-084 Estimated: BL Checked: KL		
Design:	Westlake, Reed, Leskosky			"Conceptual Estimate"					
15.3 HVAC:									
ITEM DESCRIPTION			QTY	UNIT	LABOR MH	LABOR EXT	MAT'L UNIT	MAT'L EXT	TOTAL
Boilers: Condensing Boilers			3.00	EA	20.000	60.00	\$ 15,000.00	\$ 45,000	\$ 58,200
Hot Water Pumps			2.00	EA	16.000	32.00	\$ 3,500.00	\$ 7,000	\$ 10,640
Expansion Tank and Air Separator			1.00	LS	8.000	8.00	\$ 500.00	\$ 500	\$ 1,160
Air Handling Unit: (AHU-1: DX, HW, Economizer and RF)			25000.00	CFM	0.003	75.00	\$ 5.00	\$ 125,000	\$ 155,250
Air Handling Unit: (AHU-2: DX, HW, Economizer, VAV and RF)			5500.00	CFM	0.005	27.50	\$ 6.00	\$ 33,000	\$ 41,525
Roof Top Unit: (RTU-1: DX, HW, Economizer, VAV and RF)			5000.00	CFM	0.005	25.00	\$ 5.00	\$ 25,000	\$ 31,750
Split System: with Remote Condenser			2.00	EA	20.000	40.00	\$ 3,500.00	\$ 7,000	\$ 11,200
Exhaust Fans			3.00	Allow	8.000	24.00	\$ 1,000.00	\$ 3,000	\$ 5,280
VAV Boxes with Hot Water Reheat			10.00	EA	5.000	50.00	\$ 500.00	\$ 5,000	\$ 9,500
Cabinet Unit Heater and Unit Heaters (HW)			5.00	Allow	8.000	40.00	\$ 1,050.00	\$ 5,250	\$ 9,100
Grilles and Diffusers:			150.00	EA	1.000	150.00	\$ 55.00	\$ 8,250	\$ 20,400
SHEETMETAL:			-----						
Ductwork: (Assume 1 Lbs per CFM)			35500.00	LBS	0.090	3195.00	\$ 0.95	\$ 33,725	\$ 264,120
Insulation on Ductwork			23075.00	SF	0.040	923.00	\$ 0.45	\$ 10,384	\$ 77,071
Louvers			- NIC -						
Boiler and Water Heater Flues			4.00	EA	12.000	48.00	\$ 3,250.00	\$ 13,000	\$ 18,960
Combustion Air to Mechanical Rooms			4.00	EA	8.000	32.00	\$ 1,000.00	\$ 4,000	\$ 7,040
Fire and Smoke Dampers			1.00	Allow	16.000	16.00	\$ 1,500.00	\$ 1,500	\$ 2,920
PIPING:			-----						
Hot Water Piping and Connections: (Boilers, Pumps and AHU's)			7.00	EA	24.000	168.00	\$ 2,750.00	\$ 19,250	\$ 34,860
Hot Water Piping and Connections: (VAV's and CUH's)			15.00	EA	10.000	150.00	\$ 750.00	\$ 11,250	\$ 24,000
Condensate Piping (AHU's and Split Systems)			5.00	EA	3.000	15.00	\$ 150.00	\$ 750	\$ 1,950
Insulation on Piping			1.00	LS	73.260	73.26	\$ 6,875.00	\$ 6,875	\$ 13,378
Vibration Isolation			1.00	LS	100.000	100.00	\$ 5,000.00	\$ 5,000	\$ 13,000
ATC: DDC System (AHUs, Boiler and Pump)			70.00	PTS	6.000	420.00	\$ 450.00	\$ 31,500	\$ 67,200
ATC: DDC System (Split Systems, EF and VAV's)			19.00	PTS	6.000	114.00	\$ 450.00	\$ 8,550	\$ 18,240
CO2 Monitoring			1.00	LS	24.000	24.00	\$ 4,500.00	\$ 4,500	\$ 7,080
Testing and Balancing			1.00	LS	80.000	80.00	\$ 3,500.00	\$ 3,500	\$ 9,800
Start-up and Warranty			1.00	LS	40.000	40.00	\$ 2,500.00	\$ 2,500	\$ 5,800
Rigging			1.00	LS	48.000	48.00	\$ 3,500.00	\$ 3,500	\$ 7,560
Permits, ID, Firestopping, Access Doors, Etc...			1.00	LS	24.000	24.00	\$ 1,500.00	\$ 1,500	\$ 3,480
Demo, Cutting, Patching and Core Drilling			1.00	LS	120.000	120.00	\$ 3,500.00	\$ 3,500	\$ 12,600
SUBTOTALS					MNHR	6,122		\$ 428,784	
LABOR RATES AND MARKUPS					\$/HR	\$ 70.00		1.20	
LABOR AND MATERIAL TOTALS						\$ 428,523		\$ 514,541	
TOTAL HVAC			Renovation 27,120	SF			Cost per SF \$ 34.77	\$ 943,064	\$ 943,064

Project:	Goshen Theater <i>Renovations</i> Goshen, Indiana			PROJECT DATA: Building: - Renovations: 27,120 GSF			PICIS June 4, 2012 PCS Project: 12-084 Estimated: BL Checked: KL		
Design:	Westlake, Reed, Leskosky								
16.0 ELECTRICAL:				"Conceptual Estimate"					
ITEM DESCRIPTION			QTY	UNIT	LABOR MH	LABOR EXT	MAT'L UNIT	MAT'L EXT	TOTAL
Utility Company Fee			1.00	Allow	0.000	0.00	\$ 12,500.00	\$ 12,500	\$ 15,000
Secondary Feeders from Utility Transformer to New MSB			1.00	LS	100.000	100.00	\$ 12,500.00	\$ 12,500	\$ 22,325
New Main Switchboard: 2,000 Amps			1.00	EA	160.000	160.00	\$ 35,000.00	\$ 35,000	\$ 53,720
Panel Boards: 225 Amps			1.00	EA	8.000	8.00	\$ 800.00	\$ 800	\$ 1,546
Panel Boards: 100 Amps			3.00	EA	12.000	36.00	\$ 1,250.00	\$ 3,750	\$ 7,137
Miscellaneous Panel Boards:			2.00	Allow	8.000	16.00	\$ 800.00	\$ 1,600	\$ 3,092
Transformer: 75 KVA K-13 Rated			1.00	EA	24.000	24.00	\$ 9,500.00	\$ 9,500	\$ 13,158
Panelboard & Transformer Feeders			7.00	EA	20.000	140.00	\$ 1,950.00	\$ 13,650	\$ 26,635
Dimmer Panel Feeders: 400 Amp			1.00	LS	24.000	24.00	\$ 2,250.00	\$ 2,250	\$ 4,458
Company Switch: (400 and 100 Amps)			2.00	EA	10.000	20.00	\$ 4,500.00	\$ 9,000	\$ 12,265
Company Switch Feeders			2.00	EA	14.000	28.00	\$ 1,250.00	\$ 2,500	\$ 5,051
ELTS System and Feeders			1.00	LS	60.000	60.00	\$ 12,500.00	\$ 12,500	\$ 19,395
Disconnects and Starters			1.00	LS	40.000	40.00	\$ 5,000.00	\$ 5,000	\$ 8,930
Light Fixture Types: (Assume 1 per 80 SF)			339.00	EA	1.000	339.00	\$ 195.00	\$ 66,105	\$ 104,158
Lobby Light Fixture Premium: (Allowance)			1.00	Allow	40.000	40.00	\$ 7,500.00	\$ 7,500	\$ 11,930
Building Exterior Lighting			10.00	Allow	1.500	15.00	\$ 250.00	\$ 2,500	\$ 4,099
Lighting Controls: (Includes Lighting Relay Panels)			1.00	Allow	20.000	20.00	\$ 9,500.00	\$ 9,500	\$ 12,865
Devices: Switches, Receptacles and J-Boxes (Assume 1 per 120 SF)			226.00	EA	0.300	67.80	\$ 12.50	\$ 2,825	\$ 8,356
Devices: Receptacles with Isolated Ground			5.00	Allow	0.500	2.50	\$ 35.00	\$ 175	\$ 393
Devices: Floor Receptacles			5.00	Allow	1.500	7.50	\$ 125.00	\$ 625	\$ 1,299
Devices: Occupancy Sensors			15.00	EA	1.000	15.00	\$ 135.00	\$ 2,025	\$ 3,529
Branch Circuit Wiring			600.00	EA	1.000	600.00	\$ 30.00	\$ 18,000	\$ 65,550
Lighting/Power for Dressing Room Tables W/BCW			30.00	Allow	4.00	120.00	\$ 540.00	\$ 16,200	\$ 28,230
Lighting Control for Dressing Room Tables W/BCW			6.00	Allow	4.00	24.00	\$ 300.00	\$ 1,800	\$ 3,918
Mechanical Feeders			14.00	EA	10.000	140.00	\$ 950.00	\$ 13,300	\$ 26,215
Elevator Shunt Trip and Feeder			1.00	LS	48.000	48.00	\$ 4,500.00	\$ 4,500	\$ 8,916
Fire Alarm: FACP & FAAP			1.00	LS	80.000	80.00	\$ 10,000.00	\$ 10,000	\$ 17,860
Fire Alarm: Devices (Assume 1 per 400 SF)			68.00	EA	1.000	68.00	\$ 155.00	\$ 10,540	\$ 17,629
Fire Alarm: Conduit & Wire			68.00	EA	2.250	153.00	\$ 75.00	\$ 5,100	\$ 17,327
Technology: Head-end Equipment, Racks and Cabling			1.00	LS	40.000	40.00	\$ 5,500.00	\$ 5,500	\$ 9,530
T/D and CATV: Conduits, Cables, Jacks and Terminations			40.00	Allow	4.000	160.00	\$ 275.00	\$ 11,000	\$ 24,920
Wireless Access System: Conduits, Cables and Access Points			15.00	Allow	6.000	90.00	\$ 475.00	\$ 7,125	\$ 15,143
Security: Card Access, Conduit, Wire and Devices			1.00	Allow	60.000	60.00	\$ 7,500.00	\$ 7,500	\$ 13,395
Security: CCTV System			1.00	Allow	40.000	40.00	\$ 5,500.00	\$ 5,500	\$ 9,530
PA System			- NIC -						
Central Clock System			- NIC -						
Grounding, Bonding, Firestopping and Seismic			1.00	LS	24.000	24.00	\$ 1,500.00	\$ 1,500	\$ 3,558
Tests, Permits, Shut-Downs, Etc.			1.00	LS	8.000	8.00	\$ 500.00	\$ 500	\$ 1,186
Power Systems Study			1.00	LS	60.000	60.00	\$ 6,500.00	\$ 6,500	\$ 12,195
Demo, Cutting, Patching and Core Drilling			1.00	LS	80.000	80.00	\$ 3,500.00	\$ 3,500	\$ 10,060
TOTAL ELECTRICAL			\$624,503			0.00		---	---
THEATER SYSTEMS									
Theatre Dimming and Control System (Budget \$104,000)			-----						
Conduit and Wire			1.00	Allow	0.000	0.00	\$ 35,000.00	\$ 35,000	\$ 42,000
Devices & Install Provided with Theatrical Budgets			1.00	Allow	0.000	0.00	---	---	---
Stage Lighting Fixtures and Accessories (Budget \$139,200)			-----						
Conduit and Wire			1.00	Allow	0.000	0.00	---	---	---
Devices & Install Provided with Theatrical Budgets			1.00	Allow	0.000	0.00	---	---	---
Stage Rigging (Budget \$124,900)			-----						
Branch Circuit			1.00	Allow	0.000	0.00	\$ 5,000.00	\$ 5,000	\$ 6,000
Devices & Install Provided with Theatrical Budgets			1.00	Allow	0.000	0.00	---	---	---
Auditorium AV System and Accessories (Budget \$208,700)			-----						
Conduit and Wire			1.00	Allow	0.000	0.00	\$ 41,740.00	\$ 41,740	\$ 50,088
Devices & Install Provided with AV Budgets			1.00	Allow	0.000	0.00	---	---	---
TOTAL THEATER SYSTEMS			\$98,088			0.00		---	---
SUBTOTALS					MNHR	2,958		\$ 421,610	
LABOR RATES AND MARKUPS					\$/HR	\$ 73.25		1.20	
LABOR AND MATERIAL TOTALS						\$ 216,659		\$ 505,932	
TOTAL ELECTRICAL			Renovation				Cost per SF		
			27,120	SF			\$ 26.64	\$ 722,591	\$ 722,591

CITY OF GOSHEN PERMIT PROCESS FOR COMMERCIAL & INDUSTRIAL PROJECTS



CURRENT CONSTRUCTION CODES IN EFFECT IN INDIANA – 2009

General Administrative Rules:
(IAC-675-12 GAR)

Indiana Building Code:
2008 Edition (IAC-675-13 IBC) Based on: International Building Code (2006 Edition) with Indiana amendments.

Accessible and Usable Buildings & Facilities: American National Standard (2003 Edition) with Indiana amendments.

One and Two family Dwelling Code (Effective 6/16/08):
Indiana Residential Code 2008 (IAC-675-14-4.2.1) Based on: International Residential Code (2003 Edition) with Indiana amendments.

Industrialized Building Systems:
(IAC-675-15 ISB)

Indiana Plumbing Code:
1999 edition (IAC-675-16-IPC) Based on: Uniform Plumbing Code (1997 edition) with Indiana amendments.

Indiana Electrical Code (Effective 8/26/09):
2009 Edition (IAC-675-17 IEC) Based on: National Electric Code (2008 Edition) with Indiana amendments.

Indiana Fuel Gas Code:
2008 Edition (IAC-675-25-2) Based on IFGC 2006

Indiana Mechanical Code:
2008 Edition (IAC-675-18 IMC) Based on: International Mechanical Code (2006 Edition) with Indiana amendments.

Indiana Energy Conservation Code:
2005 Edition (IAC-675-19 IECC) Based on: Model Energy Code (2005 IRC Edition) with Indiana amendments.

Indiana Swimming Pool Code
2003 Edition (IAC-675-20 ISPC)

Indiana Safety Code for Elevators, Escalators, Manlifts and Hoists:
1989 Edition (IAC-675-21 SCEEMH) Adopts 1987 Edition of the Safety Code for Elevators Escalators.

Indiana Fire Prevention Code:
2008 Edition (IAC-675-22 IFPC) Based on: International Fire Code (2006 Edition) with Indiana amendments and NFPA documents.

Indiana Supplementary Fire Safety Rules:
(IAC-675-24 SFSR)

All plans for Class I Structures will be filed with:
Indiana Dept of Fire & Bldg. Services Plan Review Division
402 W. Washington Street, Room E245
Indianapolis, IN 46204 (317) 232-1431

ORDINANCE 4068

(AS AMENDED BY ORDINANCE 4200, ORDINANCE 4271, AND ORDINANCE 4380)

NEIGHBORHOOD PRESERVATION ORDINANCE

BE IT ORDAINED by the Common Council of the City of Goshen, Indiana, that:

Section 1. Title

This ordinance shall be known as the “Neighborhood Preservation Ordinance” of the City of Goshen, Indiana.

Section 2. Definitions

The following definitions shall apply in the interpretation and enforcement of this ordinance. Words in the singular shall include the plural, and words in the plural shall include the singular.

- 2.1 Dwelling - A building which is wholly or partly used or intended to be used as a residence, but not including a tent, trailer or other structure which is designed to be transportable and is used for less than thirty (30) days.
- 2.2 Dwelling Unit - A room or group of rooms located within a dwelling and forming a single habitable unit with facilities which are used or intended to be used for living, sleeping, and cooking.
- 2.3 Habitable Room - A room or enclosed floor space used or intended to be used for living, sleeping, or cooking purposes, excluding bathrooms, laundries, pantries, foyers, hallways, closets, and storage spaces.
- 2.4 Hotel - A building or structure kept, used, maintained, advertised or held out to the public to be an inn, motel, lodge, lodging house, dormitory, or place where sleep or rooming accommodations are furnished for hire or are used or maintained for the accommodation of guests or lodgers.
- 2.5 Inspection Certificate - A certificate issued by the Building Department which documents that a rental unit has passed inspection and the owner is permitted to rent or lease the unit.
- 2.6 Inspection Officers - Shall mean the following persons, working separately or together, who shall enforce the provisions of this ordinance:
 - A. Building Commissioner, Code Compliance Officer or other designated officer.
 - B. Fire Inspector, Fire Chief or other designated officer.
 - C. County Health Officer.
- 2.7 Occupant - Any person, living, sleeping, cooking, or having actual possession of a dwelling unit or rooming unit; or any person having actual possession of any building or structure other than a dwelling unit or rooming unit.

- 2.8 Owner - Any person who, alone or jointly or severally with others:
- A. Shall have legal title to any dwelling, dwelling unit, or any other building or structure, whether or not they occupy the same; or
 - B. Shall have charge, care or control of any dwelling, dwelling unit, or any other building or structure, as owner or agent of the owner, or as executor, executrix, administrator, administratrix, trustee or guardian of the estate of the owner. Any such person representing the actual owner shall be bound to comply with the provisions of this ordinance, to the same extent as if he or she were the owner; or
 - C. Shall be the purchaser under a recorded land contract of any dwelling, dwelling unit, or any other building or structure, whether or not they occupy the same.
- 2.i Person - Any entity, including any individual, firm, corporation, association or partnership.
- 2.10 Plumbing - Shall include any of the following supplied facilities and equipment: gas pipes, gas-burning equipment, water pipes, garbage disposal units, waste pipes, toilets, sinks, installed dishwashers, bathtubs, showers, installed clothes-washing machines, catch basins, building drains, sewer drains, vents, and any other similar supplied fixtures, together with all connections to water, sewer, or gas lines.
- 2.11 Registration Fee - The amount paid to the Building Department when registering a rental unit with the city.
- 2.12 Registration Receipt - The receipt issued by the Building Department which documents that a dwelling unit has been registered and the owner has paid the appropriate registration fee.
- 2.13 Rental Unit - A single unit of a hotel, rooming house, dwelling, apartment, or other similar building which is held for lease or rent.
- 2.14 Rooming House - A dwelling, or that part of a dwelling containing one (1) or more rooming units, in which space is let by the owner or the owner's representative to persons who are not husband, wife, son, daughter, mother, father, sister, or brother of the owner or the owner's representative.
- 2.15 Rooming Unit - A room or group of rooms forming a single habitable unit used or intended to be used for living and sleeping, but not for cooking purposes.
- 2.16 Solid Waste - All solid and semisolid wastes, including garbage, litter, trash, refuse and rubbish.
- 2.17 Substantial Property Interest - Any right in real estate susceptible of being affected in a substantial way by actions authorized by this ordinance, including a fee interest, life estate interest, future interest, present possessory interest, or equitable interest of a contract purchaser.
- 2.18 Supplied - Shall mean paid for, furnished, or provided by or under the control of the owner or the owner's representative.
- 2.19 Unsafe Building - A building or structure, or any part of a building or structure, that is:
- A. In an impaired structural condition that makes it unsafe to a person or property;
 - B. A fire hazard;

- C. A hazard to the public health;
- D. A public nuisance;
- E. Dangerous to a person or property because of a violation of a statute or ordinance concerning building condition or maintenance; or
- F. Vacant and not maintained in a manner that would allow human habitation, occupancy, or use under the requirements of a statute or an ordinance.

2.20 Unsafe Premises - The tract of real estate on which an unsafe building is located.

Section 3. Minimum Standards for All Structures

No building, accessory building, garage, or other structure, whether used for residential, commercial, industrial or other purposes, shall fail to comply with the following requirements:

- 3.1 Every supplied facility, piece of equipment, or utility which is required under this ordinance shall be so constructed or installed that it will function safely and effectively, and shall be maintained in satisfactory working condition.
- 3.2 Every foundation, floor, wall, ceiling, and roof shall be reasonably weather tight and rodent proof; shall be capable of affording privacy; and shall be kept in good repair.
- 3.3 The roof and flashing shall be sound, tight and not have defects that admit rain. Roof drainage shall be adequate to prevent dampness or deterioration in the walls or interior portion of the building. Roof drains, gutters, and down spouts shall be maintained in good repair and free from obstructions. Roof water shall not be discharged in a manner that creates a hazard on the premises or adjacent property.
- 3.4 Every window, exterior door, and basement hatchway shall be reasonably weather tight and rodent proof, and shall be kept in sound working condition and good repair. All glazing materials shall be maintained free from cracks and holes.
- 3.5 Every inside and outside stair, every porch, and every appurtenance thereto shall be so constructed as to be safe to use and capable of supporting the load that normal use may cause to be placed thereon, and shall be kept in sound condition and good repair. Metal fire escapes shall be maintained in a rust free condition.
- 3.6 Every handrail and guard shall be firmly fastened and capable of supporting normally imposed loads and shall be maintained in good condition.
- 3.7 All wood and metal surfaces, including but not limited to, window frames, doors, door frames, cornices, porches and trim shall be maintained in good condition. Peeling, flaking, and chipped paint shall be eliminated and surfaces repainted.
- 3.8 All cornices, belt courses, corbels, terra cotta trim, wall facings and similar decorative features shall be maintained in good repair with proper anchorage and in a safe condition.
- 3.9 All canopies, marquees, signs, metal awnings, fire escapes, standpipes, exhaust ducts, and similar overhang extensions shall be maintained in good repair and be properly anchored so as to be kept in a sound condition. When required, all exposed surfaces of metal or wood shall be protected from the elements against decay or rust by periodic application of weather-coating materials, such as paint or similar surface treatment.

- 3.10 Any pipes, ducts, conductors, fans or blowers shall not discharge gases, steam, vapor, hot air, grease, smoke, odors, or other gaseous or particulate wastes directly upon abutting or adjacent public or private property or that of another tenant.
- 3.11 All additions or improvements to any building or structure must be made in accordance with the City of Goshen Building Code.
- 3.12 All premises shall be graded and maintained to prevent the erosion of soil and to prevent the accumulation of stagnant water thereon or within any structure located thereon.
- 3.13 All sidewalks, walkways, stairs, driveways, parking spaces and similar areas shall be kept in a proper state of repair and maintained free from hazardous conditions.
- 3.14 Any portion, member or appurtenance of a building shall not be likely to fail, to become detached, dislodged or to collapse and thereby injure persons or damage property.
- 3.15 The building or structure shall not be manifestly unsafe for the purpose for which it is being used.
- 3.16 The building or structure shall not be in such a condition that it is likely to partially or completely collapse due to:
- A. Dilapidation, deterioration, or decay;
 - B. Faulty construction;
 - C. The removal, movement or instability of any portion of the ground necessary for the purpose of supporting such building; or
 - D. The deterioration, decay or inadequacy of its foundation.
- 3.17 Exterior walls or other vertical structural members shall not list, lean or buckle to such an extent that a plumb line passing through the center of gravity does not fall inside the middle one-third of the base.
- 3.18 The building or structure, exclusive of the foundation, shall not show thirty-three percent (33%) or more damage or deterioration of its supporting member or members or fifty percent (50%) damage or deterioration of its non-supporting members, enclosings, or outside walls or coverings.
- 3.19 The building or structure shall not have less than sixty-six percent (66%) of the strength, fire resisting qualities or characteristics, or weather resisting qualities or characteristics required by law in the case of newly constructed building of like area, height or occupancy in the same location.
- 3.20 The building shall not be so damaged by fire, earthquake, flood or any other cause that the structural strength and stability is materially less than it was before the catastrophe, and is less than the minimum requirements for new buildings of similar structure, purpose or location.
- 3.21 The building or structure shall not be so damaged by fire, wind, earthquake or flood that it has become so dilapidated and deteriorated as it becomes freely accessible to persons.
- 3.22 The building or structure shall not, because of obsolescence, dilapidated condition, deterioration, damage, lack of sufficient fire resistive construction, electrical wiring, gas connection, or heating apparatus, become a fire hazard.
- 3.23 A portion of the building or structure shall not remain on the real estate more than three (3) months after demolition or destruction.

- 3.24 Swimming pools shall be maintained in a clean and sanitary condition, and in good repair.
- 3.25 Private swimming pools containing water more than twenty-four inches (24") in depth shall be completely surrounded by a fence or barrier at least sixty inches (60") in height above the finished ground level measured on the side of the barrier away from the pool. Gates and doors in such barriers shall be self-closing and self-latching. Where the self-latching device is less than fifty-four inches (54") above the bottom of the gate, the release mechanism shall be located on the pool side of the gate. Self-closing and self-latching gates shall be maintained such that the gate will positively close and latch when released from an open position of six inches (6") from the gatepost. No existing pool enclosure shall be removed, replaced or changed in a manner that reduces its effectiveness as a safety measure.

Section 4. Minimum Standards for Basic Equipment and Facilities

No person shall occupy as owner-occupant or let to another for occupancy, any dwelling or dwelling unit, for the purpose of living therein, which does not comply with the following requirements:

- 4.1 Every dwelling unit shall contain a kitchen sink in good working condition and properly connected to a water system and sewer system, if available; if no sewer is available, to a septic tank system approved by the City of Goshen.
- 4.2 Every dwelling unit, except as otherwise permitted under subsection 4.4, shall contain a room which affords privacy to a person within said room, and which is equipped with a flush toilet and a bathroom sink in good working condition, properly connected to a water and sewer system if available; if no sewer is available, to a septic system approved by the City of Goshen.
- 4.3 Every dwelling unit, except as otherwise permitted under subsection 4.4, shall contain within a room which affords privacy to a person within said room, a bathtub or a shower in good working condition and properly connected to a water and sewer system if available; if no sewer is available, to a septic tank system approved by the City of Goshen.
- 4.4 The occupants of a dwelling containing not more than two (2) dwelling units may share a single flush toilet, a single bathroom sink, and a single bathtub or shower if:
- A. Neither of the two (2) dwelling units contains more than two (2) rooms; provided, that for the purposes of this subsection, a kitchenette or an efficiency kitchen with less than sixty (60) square feet floor area shall not be counted as a room; and
 - B. The habitable area of each of the dwelling units shall equal not more than two hundred fifty (250) square feet of floor area; and
 - C. Such toilet, bathroom sink and bathtub or shower shall be in good working condition and properly connected to water and sewer systems if available; if no sewer is available, to a septic tank system approved by the City of Goshen.
- 4.5 Every kitchen sink, bathroom sink, and bathtub or shower required under the provisions of subsections 4.1, 4.2, 4.3, and 4.4 of this ordinance shall be properly connected with both hot and cold water lines when used for rental or lease occupancy.
- 4.6 Every dwelling when used for rental or lease occupancy shall have supplied water-heating facilities which are properly installed, maintained in a safe and good working condition, properly connected with the hot water lines required under the provisions of

subsection 4.5, and are capable of heating water to such temperature as to permit an adequate amount of water to be drawn at every required kitchen sink, bathroom sink, bathtub or shower at a temperature of not less than 100° F. Such supplied water heating facilities shall be capable of meeting the requirements of this subsection when the dwelling unit heating facilities required under the provisions of subsection 5.8 are not in operation.

- 4.7 Every dwelling unit shall be supplied with adequate solid waste disposal facilities and storage containers as required by the city's Solid Waste Ordinance as may be amended from time to time.
- 4.8 Every dwelling unit shall have the correct house or apartment number displayed in numerals that are at least two and one-half (2½") inches high and placed in such a manner that they are reasonably visible to the street.

Section 5. Minimum Standards for Light, Ventilation, Egress and Heating

No person shall occupy as owner-occupant or let to another for occupancy any dwelling or dwelling unit, for the purpose of living therein, which does not comply with the following requirements:

- 5.1 Every window, other than a fixed window, shall be easily operable and capable of being held in position by window hardware.
- 5.2 Every habitable room shall have at least one (1) window or skylight facing directly to the outdoors. The minimum total window area, measured between stops, for every habitable room shall be eight percent (8%) of the floor area of such room. Whenever walls or other portions of structures face a window of any such room and such light-obstruction structures are located less than three feet (3') from the window and extend to a level above that of the ceiling of the room, such a window shall not be included as contributing to the required minimum total window area. Whenever the only window in a room is a skylight-type window in the top of such room, the total window area of such skylight shall equal at least fifteen percent (15%) of the total floor area of such room.
- 5.3 Every habitable room shall have at least one (1) window or skylight which can be easily opened, or such other device as will adequately ventilate the room. The total of operable window area in every habitable room shall be equal to at least forty-five percent (45%) of the minimum window area size or minimum skylight-type window size, as required in subsection 5.2, except where there is supplied some other device affording adequate ventilation and approved by the Inspection Officer.
- 5.4 Every bathroom and toilet room shall comply with the light and ventilation requirements for habitable rooms contained in subsections 5.2 and 5.3, except that no window or skylight shall be required in adequately ventilated bathrooms and toilet rooms equipped with a ventilation system with is approved by the Inspection Officer.
- 5.5 During that portion of each year from May 1st through October 31st for protection against mosquitoes, flies, and other insects, every door opening directly from a dwelling unit to outdoor space shall have supplied screens; and every window or other device opening to outdoor space, used or intended to be used for ventilation, shall likewise be supplied with screens unless the entire dwelling unit is adequately air conditioned.
- 5.6 Every basement or cellar window used or intended to be used for ventilation, and every other opening to a basement which might provide an entry for rodents and/or insects shall be supplied with a screen or such other device as will effectively prevent their entrance.

- 5.7 Every dwelling unit shall have at least one (1) safe, unobstructed means of egress leading to a safe and open space at ground level; and every bedroom shall have at least one (1) operable egress window or exterior door. The sill height of an egress window shall not be higher than forty-four inches (44") above the floor. The minimum opening area for an egress window shall be five and seven-tenths (5.7) square feet, except the minimum opening area for an egress window on the first-floor shall be five (5) square feet. The minimum clear opening height of all egress windows shall be twenty-two inches (22").
- 5.8 Every dwelling shall have heating facilities which are properly installed, maintained in safe and good working condition, and are capable of safely and adequately heating all habitable rooms, bathrooms, and rooms in every dwelling unit located therein to a temperature of at least 65° F, and whenever the outside winter conditions are at least 0° F.
- 5.9 Every public hall and stairway in every dwelling containing three (3) or more dwelling units shall be adequately lighted at all times. Every public hall and stairway in structures devoted solely to dwelling occupancy and containing not more than three (3) dwelling units shall be supplied with conveniently located light switches controlling an adequate lighting system which may be turned on when needed instead of full-time lighting.

Section 6. Safe and Sanitary Maintenance

No person shall occupy as owner-occupant or let to another for occupancy any dwelling or dwelling unit, for the purpose of living therein, which does not comply with the following requirements:

- 6.1 The exterior doors, including any exterior basement entrance, and every exterior window shall be supplied with a lock. The owner must supply locks and the owner and occupant shall have the right to the keys for entry to the leased space.
- 6.2 Every plumbing fixture and water and waste pipe shall be properly installed and maintained in good sanitary working condition, free from defects, leaks, and obstructions.
- 6.3 Every toilet room floor and bathroom floor surface shall be constructed and maintained so as to be reasonably impervious to water and so as to permit such floor to be easily kept in a clean and sanitary condition.
- 6.4 No owner, operator, or occupant shall cause any service, facility, equipment or utility which is required under this ordinance to be removed from, shut off from, or discontinued from any occupied dwelling let or occupied by him or her, except for such temporary interruption as may be necessary when actual repairs or alterations are in process, or during temporary emergencies when discontinuance of service is approved by the Inspection Officer. Provided, however, that this subsection is not intended to require an owner to continue to serve utilities or heat to a premises occupied by a tenant who has not paid his or her rent or utilities.
- 6.5 Each dwelling unit shall have its own metering system for natural gas, water, electricity or any other utility provided in the dwelling. If this requirement is not met, the owner of the dwelling must have the utilities that are not metered separately in his or her own name.

Section 7. Minimum Space, Use and Location Requirements

No person shall occupy as owner-occupant or let to another for occupancy any dwelling or dwelling unit, for the purpose of living therein, which does not comply with the following requirements:

- 7.1 Every dwelling unit shall contain at least one hundred fifty (150) square feet of floor space for the first occupant thereof, and at least one hundred (100) additional square feet of floor space to be calculated on the basis of total habitable room area.
- 7.2 A habitable room, other than a kitchen, shall not be less than seven (7) feet in any plan dimension. Kitchens shall have a clear passageway of not less than three (3) feet between counter fronts and appliances or counter fronts and walls.
- 7.3 At least one-half of the floor area of every habitable room shall have a ceiling height of at least seven (7) feet; and the floor area of that part of any room where the ceiling height is less than five (5) feet shall not be considered as part of the floor area of the room for the purpose of determining the maximum permissible occupancy thereof.
- 7.4 In every dwelling unit of two (2) or more rooms, every room occupied for sleeping purposes by an occupant shall contain at least seventy (70) square feet of floor space, and every room occupied for sleeping purposes by more than one (1) occupant shall contain at least fifty (50) square feet of floor space for each occupant thereof.
- 7.5 No dwelling or dwelling unit containing two (2) or more sleeping rooms shall have such room arrangements that access to a sleeping room can be had only by going through another sleeping room or a bathroom or toilet room, if said arrangements are deemed to be unsafe.
- 7.6 No basement space shall be used as a habitable room or dwelling unit unless:
 - A. The floor and walls are impervious to leakage of underground and surface run-off water and are insulated against dampness;
 - B. The total window area in each room is equal to at least the minimum window area sizes as required in subsection 5.2;
 - C. Such required minimum window area is located entirely above the grade of the ground adjoining such window area; and
 - D. The total operable window area in each room is equal to at least the minimum as required under subsection 5.3, except where there is supplied some other device affording ventilation which is approved by the Inspection Officer.

Section 8. Responsibilities of Owners and Occupants

- 8.1 Every owner of a dwelling containing two (2) or more dwelling units shall be responsible for maintaining in a clean and sanitary condition the shared or public areas of the dwelling and premises thereof.
- 8.2 Every occupant of a dwelling unit shall keep in a clean and sanitary condition that part of the dwelling, dwelling unit, and premises thereof which he or she occupies and controls.
- 8.3 Every occupant of a dwelling unit shall keep all plumbing fixtures therein in a clean and sanitary condition, and shall be responsible for the exercise of reasonable care in the proper use and operation thereof.

- 8.4 Every occupant of a dwelling or dwelling unit shall be responsible for hanging all screens and double doors, storm doors, and windows whenever the same are required under the provisions of this ordinance, except where the owner has agreed to supply such service.
- 8.5 Every occupant of a dwelling or dwelling unit shall be responsible for the extermination of any insects, rodents, or other pests therein or on the premises, and every occupant of a dwelling unit in a dwelling containing more than one (1) dwelling unit shall be responsible for such extermination whenever his dwelling unit is the only one infested. Notwithstanding the foregoing provisions of this subsection, whenever infestation is caused by failure of the owner to maintain a dwelling in a rat proof or reasonably insect proof condition, extermination shall be the responsibility of the owner. Whenever infestation exists in two (2) or more of the dwelling units in any dwelling, or in the shared or public parts of any dwelling of two (2) or more dwelling units, extermination thereof shall be the responsibility of the owner.
- 8.6 Every occupant of a dwelling or dwelling unit shall dispose of all his or her solid waste, appliances, furniture and bulky items in a sanitary manner. This provision does not relieve the owner of the responsibility to maintain his or her property in a clean and sanitary condition.
- 8.7 Every occupant of a dwelling or dwelling unit shall dispose of all his or her solid waste which might provide food for rodents in a clean and sanitary manner by placing it in solid waste disposal facilities or solid waste storage containers required by subsection 4.7. It shall be the responsibility and duty of the owner of any building containing more than one (1) dwelling unit to supply the required solid waste disposal facilities and solid waste containers as provided in subsection 4.7. In all other cases, it shall be the responsibility of the occupant to furnish such facilities or containers.

Section 9. Hotels and Rooming Houses

No person shall operate a hotel or rooming house, or shall occupy or let to another for occupancy any rooming unit in any hotel or rooming house, except in compliance with the provisions of every section of this ordinance, except the provisions of section 4 and section 8. In addition to the provisions set forth in this ordinance for all rental properties, the following requirements must be met:

- 9.1 At least one flush toilet, bathroom sink, and bathtub or shower properly connected to the water and sewer systems of the city and in good working condition shall be supplied for every eight (8) persons, or fractions thereof, residing within a hotel or rooming house, including members of the operator's family whenever they share the use of such facilities; provided, that in a hotel or rooming house where rooms are let to males, flush urinals may be substituted for not more than one-half the required number of toilets. All other facilities shall be so located within the building as to be reasonably accessible from the common hall or passageway to all persons sharing such facilities. Every bathroom sink, and bathtub or shower shall be supplied with hot water at all times. No such facilities shall be located in a basement.
- 9.2 The operator of every hotel or rooming house shall change supplied bed linens and towels therein at least once each week, and prior to the letting of any room to any occupant, the operator shall be responsible for the maintenance of all supplied bedding in a clean and sanitary manner.
- 9.3 Every room occupied for sleeping purposes by one (1) person shall contain at least seventy (70) square feet of floor space and every room occupied for sleeping purposes by more than one (1) person shall contain at least fifty (50) square feet of floor space for each occupant thereof.

- 9.4 Every rooming unit shall have a safe, unobstructed means of egress leading to a safe and open space at ground level as required by the laws of the State of Indiana and the ordinances of the city.
- 9.5 The operator of every hotel or rooming house shall be responsible for the sanitary maintenance of all walls, floors and ceilings and the maintenance and sanitary condition of every other part of the hotel or rooming house, including where the entire structure or building is leased or occupied by the operator.

Section 10. Smoke Detectors

- 10.1 All leased or rental dwelling units, including hotels and any other buildings of mixed occupancy having any residential units, shall be equipped with approved smoke detectors.
- 10.2 A leased or rental dwelling unit is defined as any building that contains living quarters for one (1) or more occupants, and shall include hotels, and any other buildings of mixed occupancy and shall hereinafter be referred to as leased or rental units.
- 10.3 Every owner, manager or agent of any rental unit shall install, in every dwelling unit or rooming unit, not less than one (1) approved smoke detector on the ceiling, not less than six (6) inches from any wall, or on a wall, located from six (6) to twelve (12) inches from the ceiling, and within fifteen (15) feet of all rooms used for sleeping purposes.
- 10.4 Every owner, manager, or agent of any rental unit shall install not less than one (1) approved smoke detector on the uppermost ceiling, not less than six (6) inches from any wall, or on a wall, located from six (6) to twelve (12) inches from the uppermost ceiling of all interior stairwells.
- 10.5 All approved smoke detectors required in this ordinance shall be an ionization or photoelectric type, either battery powered or 110 volt AC, and shall comply with all the requirements of the National Fire Protection Association Chapter (NFPA) 72. Smoke detectors shall bear the label of nationally recognized standards testing laboratory that indicates that the smoke detectors have been tested and listed under the requirements of NFPA 72.
- 10.6 The provisions of this section shall not be required in buildings which contain an approved automatic sprinkler system throughout.
- 10.7 At every change of tenant in a rental unit, it shall be the responsibility of the owner, manager or agent to test and ascertain that the approved smoke detectors are in operable condition. It is the tenants' responsibility to replace batteries, as needed, while they occupy the unit, and report to the owner, manager, or agent any repairs needed by any smoke detectors.
- 10.8 It shall be unlawful for any person, except in the case of fire or for the purpose of repair or maintenance, to remove or tamper with fire extinguishers, fire escapes, fire hoses, nozzles, or other fire control or fire extinguishing equipment, including smoke detector systems, in or about any building or other premises in the City of Goshen.

Section 11. Minimum Standards for Commercial and Industrial Properties

No person having a substantial property interest in any building that is used for commercial or industrial purposes shall allow the building to fail to comply with the following requirements:

- 11.1 Any door, aisle, passageway or other means of exit must be a sufficient width or size to provide a safe and adequate means of exit in the case of fire or panic.

- 11.2 The walking surface of any aisle, passageway, stairway or other means of exit shall not be so warped, worn, loose, torn or otherwise unsafe to prevent a safe and adequate means of exit in the case of fire or panic.
- 11.3 The stress in any materials, or member, or any portion thereof, shall not be more than one and one-half times the working stress or stresses allowed for new buildings of similar structure, purpose or location.

Section 12. Application for Registration Receipt

- 12.1 No owner of real estate within the City of Goshen shall permit the real estate to be leased for any purpose that includes any person using the premises as their living quarters until a registration receipt covering each rental unit in the building has been obtained.
- 12.2 A registration receipt shall be obtained by applying for the receipt at the Goshen City Building Department and by paying a biennial registration fee for each rental dwelling unit or an annual registration fee for each hotel or rooming house. The initial registration fee shall be submitted at the time application is made. At the time application is made, the owner of the real estate shall supply the Building Department with the name of the owner, address of the owner, street address of the property being registered, the nature of the rental building or unit, the use to which the property shall be put, and any other information which the Building Department may require to aid the Building Department in carrying out the purpose of this ordinance.
- 12.3 After application for a registration receipt has been submitted to the Building Department, an Inspection Officer shall conduct an inspection of each rental unit to ascertain that the facility conforms to all requirements of this ordinance, any other applicable ordinance, and all applicable laws of the State of Indiana. The owner or the owner's representative shall be entitled to seventy-two (72) hours written notice from the Inspection Officer prior to conducting the inspection. In the event that the owner, or the tenant if occupied, refuses to allow the Inspection Officer to conduct the inspection, the Inspection Officer shall apply for a warrant to make the inspection in accordance with Indiana Code 36-7-9-16.
- 12.4 After an inspection which shows that the rental unit conforms to all applicable ordinances and statutes, the Building Department shall issue to the owner of every registered rental unit an inspection certificate.
- 12.5 Each registration receipt shall be valid for a period of two (2) years, except those registration receipts for a hotel or rooming house which receipts shall be valid for only one (1) year. Each registration receipt shall be renewed by its expiration date by submitting the registration fee to the Building Department. In the event that the registration fee is not paid within thirty (30) days after its expiration date, a late fee will be assessed and the renewal will be backdated to its prior expiration date. Any registration receipt issued shall be valid for the biennial or annual period, as applicable, commencing on the anniversary date of the original expiration date and not as of the date of payment. Payment of the registration fee shall not be considered a defense to any action filed by the City of Goshen to enforce the provisions of this ordinance if such action was filed prior to payment of the registration fee.
- 12.6 The registration receipt applies to the rental unit and not to the owner of the property. However, within thirty (30) days of the sale of the equitable or legal title to any property registered under this ordinance, any person acquiring equitable or legal title shall notify the Building Department of their name and address. No new registration fee shall be due until the expiration date of the current registration receipt.
- 12.7 Each owner of a rental unit warrants at each change of tenant that the rental unit meets the registration and inspection requirements set forth in this ordinance. This warrant

is implied in the very act of renting the unit and liability for it may not be removed by any act or agreement, either written or verbal, of either the owner or the prospective tenant.

Section 13. Inspection

- 13.1 The Inspection Officers are authorized and directed to make inspections to determine the condition of dwellings, dwelling units, rooming units, any other building or structure, and premises located within the City of Goshen in order that they may perform their duties of safeguarding the health and safety of the occupants and the general public.
- A. The Inspection Officers are authorized to enter, examine and survey, at all reasonable times, all rental units. The owner or the owner's representative, and/or occupant of every rental unit shall give the Inspection Officer free access to such rental unit and its premises at all reasonable times for the purpose of such inspection, examination and survey, provided, however, that such Inspection Officer has, prior to entry thereof, positively identified himself or herself as a person authorized pursuant to this ordinance to enter upon said premises. At the time of each inspection, all pets must be controlled so that the Inspection Officer can move about the dwelling and surrounding property without interruption.
- B. The owner or the owner's representative shall be entitled to seventy-two (72) hours written notice from the Inspection Officer prior to conducting the inspection, examination or survey. The owner or the owner's representative shall be responsible for notifying the occupant of the rental unit of the inspection when he or she receives notice of the intent to inspect from the Inspection Officer.
- C. This provision shall not be construed to limit or restrain the right of the Inspection Officer to make an inspection of any other building or premises pursuant to any of the provisions of Indiana Code 36-7-9-1 et al.
- 13.2 Every rental unit operated and maintained in the city shall be inspected by the Building Commissioner or his designee at least one (1) time every four (4) years. The inspection shall be made to ascertain that the facility conforms to all requirements of this ordinance, any other ordinance of the city, and all statutes of the State of Indiana regarding such facilities.
- 13.3 Every occupant of a rental unit shall give the owner thereof or the owner's representative access to any part of such dwelling or rental unit or its premises at all reasonable times for the purpose of making such repairs or alterations as are necessary to effect compliance with the provisions of this ordinance.
- 13.4 The Building Department shall issue to the owner of every registered and inspected rental unit an inspection certificate as proof that the unit passed inspection. The inspection certificate shall be valid until the next inspection.
- 13.5 At each change of occupancy, every owner or the owner's representative shall provide the occupant with a copy of the inspection certificate. The copy shall become part of warranty of habitability of the premises provided for in subsection 12.7. In the case of hotel or rooming house, the inspection certificate shall be posted in a conspicuous place within the facility.
- 13.6 If an Inspection Officer finds that a dwelling, dwelling unit, rooming house, rooming unit, or any other building or structure fails to comply with any standard set forth in this ordinance, any other ordinance of the City of Goshen, or any statute of the State of Indiana, he or she shall give notice of the alleged violation to the owner of the dwelling,

dwelling unit, rooming house, rooming unit, or any other building or structure. The notice shall be in writing and shall reasonably describe the violation found. The notice shall further specify the date by which the violation must be corrected. The notice shall be served upon the owner or the owner's representative, and the occupant of the dwelling, dwelling unit, rooming house, rooming unit, or any other building or structure.

- 13.7 A building that the Inspection Officer finds to be unsafe shall be repaired so that it meets acceptable standards within fifteen (15) days of the notice described in subsection 13.6. Any other violations shall be repaired within thirty (30) days of the notice of a violation described in subsection 13.6. If the violations cited are not corrected, a reinspection fee shall be levied against the person (either owner or occupant) responsible for correcting the violation cited. Reinspection may continue until the violations are corrected. The reinspection fee may be waived if the Inspection Officer finds that substantial progress has been made with regards to each separate violation noted or that the failure to correct the violation is not within the control of the person responsible for correcting the violation cited.
- 13.8 If a dwelling, dwelling unit, rooming house, rooming unit, or any other building or structure is cited for violations of this ordinance, no new violations shall be cited at the time of the reinspection for the original violation unless such new violations make the property unsafe.
- 13.9 Upon notification that an occupied rental unit has not obtained the necessary registration receipt, the Building Department may inspect such premises upon twenty-four (24) hour notification to the owner of the property, for the purpose of determining if any inspection certificate is required. If access cannot be obtained, the Inspection Officer may obtain an inspection warrant pursuant to the provisions of Indiana Code 36-7-9-16.
- 13.10 Nothing in the preceding subsection should be construed to require an investigation by the Building Department or any city employee prior to the city filing a complaint against the owner of real estate who fails to obtain a required registration receipt.

Section 14. Enforcement

- 14.1 If a cited violation is not corrected within the designated time, and the Building Commissioner finds that the building is unsafe within the meaning of Indiana Code 36-7-9-4, the Building Commissioner may issue an order requiring any of the following:
 - A. Vacating of an unsafe building.
 - B. Sealing an unsafe building against intrusion by unauthorized persons.
 - C. Extermination of vermin in and about the unsafe premises.
 - D. Removal of trash, debris or fire hazardous material in and about the unsafe premises.
 - E. Repair or rehabilitation of an unsafe building to bring it into compliance with standards for building condition or maintenance required for human habitation, occupancy, or use prescribed by a statute or this ordinance.
 - F. Removal of part of an unsafe building.
 - G. Removal of an unsafe building.

- H. Requiring, for an unsafe building that will be sealed for a period of more than ninety (90) days:
 - 1. Sealing against intrusion by unauthorized persons and the effects of weather;
 - 2. Exterior improvements to make the building compatible in appearance with other buildings in the area; and
 - 3. Continuing maintenance and upkeep of the building and premises.
- 14.2 The order supercedes any permit relating to the building or land use, whether that permit is obtained before or after the order is issued.
- 14.3 The order issued pursuant to subsection 14.1 shall contain the following:
 - A. The name of the person to whom the order is issued;
 - B. The legal description or address of the unsafe premises that is the subject of the order;
 - C. The action that the order requires;
 - D. The period of time in which the action is required to be accomplished, measured from the time when the notice of the order is given;
 - E. If a hearing is required, a statement indicating the exact time and place of the hearing, and stating that the person to whom the order was issued is entitled to appear at that hearing with or without counsel, present evidence, cross-examine opposing witnesses, and present arguments;
 - F. If a hearing is not required, a statement that an order under this section becomes final ten (10) days after notice is given, unless a hearing is requested in writing by a person holding a fee interest, a life estate interest or an equitable interest of a contract purchaser in an unsafe premises, and the request is delivered to the Building Department before the end of the ten (10) day period;
 - G. A statement briefly indicating what action can be taken by the Building Commissioner if the order is not complied with;
 - H. A statement indicating the obligation created by Indiana Code 36-7-9-27 relating to the notification of subsequent interest holders and the Building Commissioner; and
 - I. The name, address and telephone number of the Building Commissioner.
- 14.4 The order must allow a sufficient time, of at least ten (10) days from the time when the notice of the order is given, to accomplish the required action.
- 14.5 A hearing before the Board of Public Works and Safety must be held relative to each order of the Building Commissioner, except for an order issued under subsections 14.1(B), 14.1(C) and 14.1(D). A hearing shall be conducted before the Board of Public Works and Safety for all other orders of the Building Commissioner under this section.
- 14.6 The hearing shall be held on a business day no earlier than ten (10) days after notice of the order is given. The Board of Public Works and Safety shall grant a continuance of the scheduled hearing if requested in writing by a person holding a substantial property interest in the affected real estate, if such request is received not later than five (5) days

after the notice is given. Such continuance shall be for a period of not more than fourteen (14) days past the original date of the hearing.

- 14.7 If, at a hearing, a person to whom an order has been issued requests an additional period to accomplish action required by the order, and shows good cause for this request to be granted, the Board of Public Works and Safety may grant the request. However, as a condition for allowing the additional period, the Board of Public Works and Safety may require that the person post a performance bond to be forfeited if the action required by the order is not completed within the additional period.
- 14.8 Notice to the owner and all other holders of a substantial property interest shall be deemed sufficient if the notice is given pursuant to the provisions of Indiana Code 36-7-9-25.
- 14.9 The Board of Public Works and Safety, after having given notice of the time and place of a public hearing by publication in accordance with Indiana Code 5-3-1, shall adopt a schedule setting forth the maximum amount of performance bonds applicable to the various types of ordered action. The Board of Public Works and Safety shall use this schedule to fix the amount of the performance bond required under the previous subsection.
- 14.10 At the conclusion of any hearing before the Board of Public Works and Safety, the hearing authority may make findings and take action to affirm the Building Commissioner's order, rescind the Building Commissioner's order, or modify the Building Commissioner's order. However, unless the person to whom the order was issued or counsel for the person to whom the order was issued is present at the hearing, the Board of Public Works and Safety may not modify the order so that it is more stringent than the Building Commissioner's original order.
- 14.11 The findings made and action taken by the Board of Public Works and Safety shall be in writing and shall be available to the public upon request. However, neither the Building Commissioner nor the Board of Public Works and Safety is required to give any person notice of the findings and action other than those persons having a substantial property interest.
- 14.12 If the Building Commissioner finds it necessary to take emergency action concerning an unsafe premises in order to protect life, public safety or property, he or she may take that action without issuing an order or giving notice to any person having a substantial property interest. However, this emergency action must be limited to removing any immediate danger. Such action shall be taken only when it is not feasible to give notice and hold hearings as provided by subsection 14.3. Any person to whom such emergency action is directed shall comply therewith but shall be afforded a hearing before the Board of Public Works and Safety as soon as possible.
- 14.13 The Board of Public Works and Safety may recover the costs incurred by taking emergency action, by filing a civil action in the Circuit or Superior Court of Elkhart County against persons who held a fee interest, life estate interest, or equitable interest of a contract purchaser in the unsafe premises at the time the Building Commissioner found it necessary to take the emergency action.
- 14.14 Any person required to vacate an unsafe premises under the emergency action of this section may challenge the emergency action to vacate in the Circuit or Superior Courts of Elkhart County by challenging the Building Commissioner's determination that there is an immediate danger to life or safety of any person. The Building Commissioner shall have the burden of proving that an emergency action is necessary to prevent immediate danger to the life and safety of any person occupying or using nearby property.
- 14.15 If a cited violation is not corrected within the designated time period and the Building Commissioner finds that the building is unsafe within the meaning of Indiana Code 36-

7-9-4, the City of Goshen may file a complaint with the Elkhart Superior Courts, or Elkhart Circuit Court to assess any fine provided by this ordinance, to seek an injunction as provided by Indiana Code 36-7-9-18, or any sanction allowed by Indiana Code 36-7-9-1 through Indiana Code 36-7-9-28 inclusive.

- 14.16 If a cited violation is not corrected within the designated time period and the Building Commissioner does not find that the building is unsafe within the meaning of Indiana Code 36-7-9-4, the City of Goshen may file a complaint with Elkhart Superior Courts or the Elkhart Circuit Court to assess any fine provided by this ordinance.
- 14.17 Any rental unit for which the Building Department has issued an order finding the building or premises to be unsafe shall be so designated and placarded by the Inspection Officer.
- 14.18 No rental unit which is placarded as unsafe shall again be used for human habitation until the written approval is secured from the Building Department, Board of Public Works and Safety, or a court of law. The Inspection Officer shall remove the placard whenever the defect or defects upon which the finding that the building is unsafe have been eliminated.
- 14.19 No person shall deface or remove any notification of the Inspection Officer that any rental unit has been declared unsafe for human habitation.
- 14.20 The order of the Board of Public Works and Safety expires two (2) years after the notice of the order is given unless one or more of the following events occur within that two (2) year period:
 - A. A complaint requesting judicial review is filed by any party having a substantial property interest.
 - B. A contract for action required by the order is let at public bid.
 - C. A civil action concerning the property is filed either by the city or any person having a substantial property interest.
- 14.21 This ordinance specifically adopts the provisions of the Indiana Unsafe Building Law which are included in Indiana Code 36-7-9-1 through 36-7-9-28 inclusive.

Section 15. Penalties

- 15.1 Any person who commits any of the following acts is subject to a fine not to exceed Five hundred Dollars (\$500.00). Each day that a violation of this order continues shall constitute a separate offense.
 - A. A person who fails to obtain a registration receipt as required by this ordinance;
 - B. A person who fails to correct a violation cited in accordance with this ordinance, whether or not such violation makes the premises an unsafe premises, or whether the violation is a violation of this ordinance, another ordinance of the City of Goshen or a statute of the State of Indiana;
 - C. A person who removes or defaces the notification of the Inspection Officer that a rental unit has been determined to be unsafe.
- 15.2 Any building or premises which is unsafe within the meaning of Indiana Code 36-7-9-4 shall be subject to any other sanction provided in Indiana Code 36-7-9-1 through Indiana Code 36-7-9-28 inclusive.

- 15.3 A person failing to comply with an order of the Board of Public Works and Safety issued pursuant to this ordinance in connection with an unsafe building or premises will be subjected to any other sanction provided in Indiana Code 36-7-9-1 through Indiana Code 36-7-9-28 inclusive.

Section 16. Miscellaneous Provisions

- 16.1 Notice of orders, notice of statements of public bid are to be let, and notices of claims for payment must be given by:
- A. Sending a copy of the order or statement by registered or certified mail to the residence, place of business or employment of the person to be notified, with return receipt requested;
 - B. Delivering a copy of the order or statement personally to the person to be notified; or
 - C. Leaving a copy of the order or statement at the dwelling or usual place of abode by the person to be notified.

In the event that service is not obtained by foregoing methods, the alternate means of service described in Indiana Code 36-7-9-25 may be used.

Section 17. Severability

The provisions of this ordinance are severable, and the invalidity of any phrase, clause or part of this ordinance shall not affect the validity or effectiveness of the remainder of the ordinance.

Section 18. Other Ordinances

- 18.1 All ordinances and parts of ordinances inconsistent or in conflict with the terms of this ordinance are repealed to the extent of such inconsistency or conflict.
- 18.2 This ordinance specifically repeals Ordinance 3508, except that all enforcement pending under Ordinance 3508 may be pursued to its conclusion.

Section 19. Effective Date

This ordinance shall be in full force and effect from and after its passage, approval and publication according to the laws of the State of Indiana.

★ ★ ★ ★ ★

Ordinance 4068 was duly passed and adopted on May 14, 2002.
Ordinance 4200 was duly passed and adopted on February 3, 2004.
Ordinance 4271 was duly passed and adopted on December 7, 2004.
Ordinance 4380 was duly passed and adopted on August 15, 2006.

MEETING NOTES

Client: Downtown Goshen Inc.
Project: Goshen Theatre
Feasibility
Comm. No.: 11168.00
Phase No.: 01
File No.: B3

Purpose: User / Community Interviews - #1
Location: Goshen Chamber of Commerce
Meeting Date: 12/7/2011

Attendees | Distribution:

A	D
	Matt Janiak Westlake Reed Leskosky (216) 522.1350 Architect
	Alysha Liljeqvist Downtown Goshen Inc. (203) 984-6922 Project Coordinator
	Adam Fleming(AF) Community Advocate
	Geoffrey Landis(GL) Menno Travel (building owner)

1. Q: Who do you think could or should use the Goshen Theatre
 - a. GL- The community/region has many performing arts spaces
 - i. LVD Elva Miller, concert promoter, major user
 - ii. New World Arts, local theatre group, possible user
 - iii. Old Bag factory, local conference and performance space
 - b. GL - Goshen is a family friendly downtown area
2. Q: What programming is working at the Goshen theatre
 - a. AR – second run movies
 - b. GL – the space is used for music group practicing, the music can be heard in the adjacent building. (note: this would need to be addressed in design)
 - c. First Fridays (Gina) is a well-coordinated and programmed event(s) each first Friday of the month. This is a big draw in the community to the bring people downtown.
 - d. Kansas Bible Company, music group
 - e. AR – could the building be a Micro Biz site?
 - f. Goshen Theatre could be a destination place
3. Q: How much does the Menno travel office space rent for now?
 - a. GL – we have 1400 s.f. that we rent for \$1400 per month and 3000 s.f. with additional 3000 s.f. of storage that we have rented for \$1300 per month, which is a discounted rate.
4. Q: How late are the downtown businesses open?
 - a. Weekday – 6a until 9-10p (various restaurants are open)
 - b. Weekend retail closes around 6p
5. Q: What would like the experience to be at the Goshen theatre?
 - a. GL – Musical theatre, Broadway theatre

Allen Theatre | 09045 | 1_ 20111207_Fleming_Landis.doc

MEETING NOTES

Continued

- i. Note the community has a Hispanic population in the 30-40% range and continues to grow.
 - b. AR – New Horizons Group (music) 70 piece group, Elkhart based
 - i. Musical theatre
 - ii. Top music acts
 - 1. Over the Rhine, Jazz, bluegrass, Steel Wheels, Allison Krauss (big draw)
 - c. GL – 4H County Fair is a big draw
 - d. Other competing venues
 - i. South Bend: Morris Civic (2500 seats, Broadway series),
 - ii. Elkhart: Lerner
 - iii. Goshen College: Sauder Hall (music hall)
- 6. Q: Do the college students come to the downtown?
 - a. Student life is mostly isolated to the campus
 - b. Goshen alum stay or move to Goshen.

END of NOTES

MEETING NOTES

Client: Downtown Goshen Inc.
Project: Goshen Theatre Feasibility
Comm. No.: 11168.00
Phase No.: 01
File No.: B3

Purpose: User / Community Interviews - #2
Location: Goshen Chamber of Commerce
Meeting Date: 12/7/2011

Attendees | Distribution:

A	D				
		Matt Janiak	Westlake Reed Leskosky	(216) 522.1350	Architect
		Alysha Liljeqvist	Downtown Goshen Inc.	(203) 984-6922	Project Coordinator
		John Shoup(JS)	Elkhart Civic Theatre (AD)		
		Anna Pasquarello(AP)	Audio Engineer (Lerner, Goshen)		

1. Q: What is your opinion of the City / College relationship, are there any opportunities for the Goshen theatre?
 - a. JS – could be rented for student events but they have the Umble Theatre (500 seats)
 - b. AP – music, Over the Rhine, Heavy Metal, Kansas Bible, Blues and Jazz
 - c. AP – Events at the theatre are not well promoted
2. Q: What type of work do you do at the Elkhart Civic Theatre?
 - a. JS – Family, Adult, not too progressive, standards
 - i. 40% of income is from ticket sales
 - ii. Sex and foul language do not do well
 - iii. Average 3-4 musicals a year, these are well attended
 - iv. Tickets:
 1. \$13 per show (7-8yr average)
 2. 9 shows a season
 3. 80% sold per year
 - v. Cast / Actors – Open auditions for each show
 - b. JS – other competing venues / groups
 - i. South Bend Civic (Black Box)
 - ii. South Bend: Century Center (120 seats)
 - iii. New World Arts (avant-garde group), possible user
 - iv. The Acting Ensemble (group)
3. Q: Would Elkhart Civic Theatre (ECT) consider presenting at the Goshen Theatre (GT)
 - a. JS – we have thought about it.

Allen Theatre | 09045 | 2_20111207_Shoup_Pasquarello.doc

MEETING NOTES

Continued

- i. We are not sure, we could expand our program to include the Goshen or we would consider the Goshen as our full time home.
- 4. Q: What does the ECT have now in their performance space?
 - a. Seats 75-120, size is ok
 - b. Stage 17'-6" wide by 30' deep
 - c. AV, actors not amplified but have 16 cordless mics and a 12ch board
 - d. No fly capabilities
- 5. Q: what would you like to see at the Goshen theatre if you performed their
 - a. AP – should upgrade sound system
 - b. JS – would like to fly within the stage house or have a grid to hang, I don't see anything heavier than 500#
 - c. Need front of house lighting position
 - d. GT has some electrical issues
 - e. Need a safe fly system
 - f. Small shop for repair, paint but building could be off site but would prefer somewhere on site
 - g. Fall safety is important
 - h. Would like a pit if possible
 - i. Need more wing space, better if it could be adjustable
 - j. 30-40 foot wide proscenium
 - k. Good support space or an option to expand when cast increases
 - i. 40-70 actors for musicals
 - l. Good public toilets, we have an older patron group
- 6. Q: What one thing would you want to see done or note done to the Goshen Theatre?
 - a. AP – I love the feel of the old theatre
 - b. JS – Retain the history of the theatre
- 7. JS – Good groups would cross over to Goshen
- 8. JS – Downtown Goshen has many good places to go after shows

END of NOTES

MEETING NOTES

Client: Downtown Goshen Inc.
Project: Goshen Theatre Feasibility
Comm. No.: 11168.00
Phase No.: 01
File No.: B3

Purpose: User / Community Interviews - #3
Location: Goshen Chamber of Commerce
Meeting Date: 12/7/2011

Attendees | Distribution:

A	D				
		Matt Janiak	Westlake Reed Leskosky	(216) 522.1350	Architect
		Alysha Liljeqvist	Downtown Goshen Inc.	(203) 984-6922	Project Coordinator
		Earlene Nofziger(EN)	Theatre Task Force, Goshen Historic Committee		
		Janette Yoder(JY)	DGI, Goshen College		
		Doug Risser(DR)	Menno Travel		

1. The third floor of the Menno travel building was once the Elks Lodge (WRL obtained the historic photos)
2. DR – We should be in discussion with Goshen College
3. DR - The economics of the project are important
4. DR – is “This” needed or not. What is the real extent of the project, how much of the building “must” it incorporate.
5. DR – To attract and retain professionals we need amenities like the theatre.
6. DR – we are influenced by the Lerner building success and what something like that can do for Goshen.
7. DR – the first and second floor of the Menno side are good business lease space. Our intention is to use that as our retirement income
8. DR – If Menno stays in the building (preferred) we would need main street access.
9. EN – you need to get a copy of the Goshen Historic Preservation Ordinance.
10. We are worried about taking on the project renovation as one large project
11. Richmond Theatre in Indiana went through a recent renovation
12. Other Venues in the area
 - a. Nappanee Amish Acres
 - b. Wagon Wheel, Warsaw
13. Latin/ Hispanic community programming is important
14. Also a significant Russian and Slavic heritage
15. Add an elevator
16. Could the building support a residential program?
17. The alley has a water infiltration problem

END of NOTES

Allen Theatre | 09045 | 3_20111207_Nofziger_Risser_Yoder.doc

MEETING NOTES

Client: Downtown Goshen Inc.
Project: Goshen Theatre
Feasibility
Comm. No.: 11168.00
Phase No.: 01
File No.: B3

Purpose: User / Community Interviews - #4
Location: Goshen Chamber of Commerce
Meeting Date: 12/7/2011

Attendees | Distribution:

A	D				
		Matt	Janiak	Westlake Reed Leskosky	(216) 522.1350 Architect
		Alysha	Liljeqvist	Downtown Goshen Inc.	(203) 984-6922 Project Coordinator
		Geoffrey	Landis	Menno Travel	
		Doug	Risser(DR)	Menno Travel	

1. Rent in the range of \$5,000 - \$6,000 would be great for the Menno side of the building
2. Q: If the project needed to expand into the Menno side, what would be acceptable to you?
 - a. Menno could distribute the office into a first level (8-10 people) to maintain street access (need big presence) and move the rest of the staff to the second floor (8-10 people).
 - b. We could sell the building
 - c. We could lease the needed expansion space to the theatre
 - d. We could lease the entire building to the theatre and relocate Menno travel to a smaller office with good street presence.
3. Q: what are some of the problems or building issues you are aware of at this time?
 - a. Roof drain leaks, we are looking into repairing
 - b. At the location where the Menno building adjoins the next building drainage should be improved
 - c. An asbestos report has not been done for the building (WRL recommends one be commissioned)
 - d. Roof on the Menno side is 25 years old.

END of NOTES

MEETING NOTES

Client: Downtown Goshen Inc.
Project: Goshen Theatre
Feasibility
Comm. No.: 11168.00
Phase No.: 01
File No.: B3

Purpose: User / Community Interviews - #5
Location: Goshen Chamber of Commerce
Meeting Date: 12/7/2011

Attendees | Distribution:

A	D				
		Matt	Janiak	Westlake Reed Leskosky	(216) 522.1350 Architect
		Alysha	Liljeqvist	Downtown Goshen Inc.	(203) 984-6922 Project Coordinator
		Grant	Beachy(GB)	Electric Angel Studios	
		David	Daugherty(DD)	Goshen Chamber of Commerce	

1. DD – can the Goshen be more?
2. GB – Goshen is an Arts friendly downtown, it's more approachable
 - a. The theatre is a good size
 - b. The theatre needs and operating group
 - c. Theatre needs either a PR person and/or better marketing strategy
 - d. Music and theatre could use it as an incubator space
 - e. Need to keep the space approachable (cost of rental)
3. New World Arts could be a user. They have a small 49 seat black box across the street
4. GB – the theatre could be a destination or authority of arts
5. DD – should have a variety of entertainment
6. Music, Folk, Jazz, Country, Singer Songwriter and Indie
7. Honneywell Center in Wabash is a good PAC
8. Hammond Center for the Arts
9. GB – the theater could be used for a recording studio
10. TG music, the local music store could be a possible user (Jason Samuels)
11. Downtown Goshen could be a music incubator
12. GB – capture and broadcast via digital content and use the Goshen Theatre as the hub
13. GB – music and family is a strong educational thread
14. GB – December can be a slow month for entertainment

END of NOTES

Allen Theatre | 09045 | 5_20111207_Beachy_Daugherty.doc

MEETING NOTES

Client: Downtown Goshen Inc.
Project: Goshen Theatre
Feasibility
Comm. No.: 11168.00
Phase No.: 01
File No.: B3

Purpose: User / Community Interviews - #6
Location: Goshen Chamber of Commerce
Meeting Date: 12/7/2011

Attendees | Distribution:

A	D				
		Matt	Janiak	Westlake Reed Leskosky	(216) 522.1350 Architect
		Alysha	Liljeqvist	Downtown Goshen Inc.	(203) 984-6922 Project Coordinator
		Elva	Miller(EM)	LVD (User)	
		Mark	Brinson	Theatre Task Force City of Goshen, Redevelopment	

1. EM – I produce 1-2 shows per month for my season.
 - a. Producing more shows in the Goshen over the past year
 - b. Season: January – May, Usually break for summer, Oct-Nov.
 - c. Total show average from 7-10 per year
 - d. Program type (Music)
 - i. Upcoming Folk, Bluegrass, Jazz, Irish
 - ii. No festivals
 - e. Ticket costs per show – \$15,20,25
 - f. Can book bigger shows at the Goshen than in prior location
 - g. Show attendance – 200-400 people
 - h. Season is planned 6 months in advance
 - i. Age of patron – middle to senior
 - j. Facility needs for my productions
 - i. Band do not usually have technical crew, we usually provide the crew
 - ii. All shows are amplified music
 - iii. More electrical capacity
 - iv. Nice green room for the talent
 - v. Toilet rooms for the talent
 - vi. Dressing rooms (2) with toilet and shower
 - vii. Good theatrical lighting
 - viii. Main drape for the stage (nice but not necessary)
 - ix. Mid-stage curtain to adjust stage depth
 - x. Seating is ok

Allen Theatre | 09045 | 6_20111207_Miller_Brinson.doc

MEETING NOTES

Continued

- xi. New carpet
- 2. Q: how do you sell tickets?
 - a. EM - Phone, website, at Goshen office, walk ups (cash box)
 - i. If I sell 140 tickets, 120 are off site and 20 on site
- 3. Q: Do you sell merchandise?
 - a. EM - I do not but the bands may set up a 4 foot by 8 foot folding table
- 4. Q: Do you have any concessions at the shows?
 - a. EM – bottled water and coffee, would sell alcohol and food
- 5. Q: What one thing would you do to the Goshen theatre?
 - a. EM – I like the marquees and I would expand the lobby
- 6. MB – the Goshen should focus on local and community adult and family entertainment
 - a. Tie children's drama into productions
- 7. MB – how can the theatre build off the First Friday program, which is a BIG draw?
- 8. Group suggested we talk with David Smith at the Lerner (574.294.5471)
- 9. MB – there is an interest in live music locally
 - a. There is a strong music community here
 - b. Weddings could be a revenue source
- 10. MB - The City of Goshen would not own the theatre
- 11. MB – theatre is in TIF area
- 12. MB – tax abatement in future
- 13. Q: what other uses or users can you see at the Goshen theatre
 - a. MB – Creative Arts incubator
 - b. MB – Art classes
 - c. MB – Music classes
 - d. MB – School of Rock idea, where the kids go through a class or camp and perform at the end on the stage
 - e. MB – you should talk with Sheri Howland of the City Parks Department (574.536.8847)

END of NOTES

MEETING NOTES

Client: Downtown Goshen Inc.
Project: Goshen Theatre Feasibility
Comm. No.: 11168.00
Phase No.: 01
File No.: B3

Purpose: User / Community Interviews - #7
Location: Goshen Chamber of Commerce
Meeting Date: 12/8/2011

Attendees | Distribution:

A	D				
		Matt	Janiak	Westlake Reed Leskosky	(216) 522.1350 Architect
		Alysha	Liljeqvist	Downtown Goshen Inc.	(203) 984-6922 Project Coordinator
		Nate	Butler(NB)	Goshen Theatre TD	
		Jerry	Peters(JP)	Freelance Theatre Tec Formerly of Goshen College	

1. Q: How long is the season?
 - a. February – December 15
2. Q: What programs do you see at the Goshen Theatre
 - a. Could have an educational aspect
 - b. Music events are bigger draw
 - c. Theatre not as big as Music at this time
 - d. Goshen College has 25 majors (4-6 are seniors), theatre could provide opportunity for internships
 - e. JP – could imagine a Black Box in the facility
 - f. New World Theatre
 - g. Elkhart Civic Theatre
 - h. Goshen High School
 - i. Can the theatre facilitate cross collaboration within the community
 - i. Blue collar programming
 - ii. Agriculture programming
 - iii. Christian programming
3. Q: What one thing would you change in the theatre
 - a. Should be very functional
 - b. Need base level of AV and Lighting equipment, 5-6 electricians in the stage house
 - c. Spaces for education (get parents and their children into the building) and retail
 - d. Mixed use
 - e. Make it very open and permeable to allow community to walk in
 - f. Art mart, Artist Guilds, Art Walk, Open Studio tour

END of NOTES

Allen Theatre | 09045 | 7_20111208_Butler_Peters_.doc

MEETING NOTES

Client: Downtown Goshen Inc.
Project: Goshen Theatre Feasibility
Comm. No.: 11168.00
Phase No.: 01
File No.: B3

Purpose: User / Community Interviews - #8
Location: Goshen Chamber of Commerce
Meeting Date: 12/8/2011

Attendees | Distribution:

A	D				
		Matt	Janiak	Westlake Reed Leskosky	(216) 522.1350 Architect
		Alysha	Liljeqvist	Downtown Goshen Inc.	(203) 984-6922 Project Coordinator
		Gina	Leichty(GL)	DGI, Theatre Task Force	Fundraising
		Julia	Gautsche(JG)	City of Goshen, Facade	

1. Q: What are your goals for the project?
 - a. JG – Façade and common face of building that is not historically correct to original building should be removed and return to original design.
 - b. JG – Open the building and give it back to the community, would like activity in the building.
 - c. GL – Economic development is important (Don Minter could be helpful)
 - d. GL - Need to make sure what is done will last
 - e. GL – I expect to get the program ad fundraising needs form the report you are developing
 - f. JG – Marquee is an important element
2. Q: Who do you see using the facility?
 - a. Coordinate with First Fridays
 - i. Could use theatre during inclement weather
 - ii. Use ballroom for teen events
 - b. Dance, film and music
 - i. Big films go to the national chains
 - c. Paul Stuary – Community Sustainable
 - d. Barbara Powtuc, Debbie Warbrook (dance)
 - e. Any exercise and dance groups
3. JG – need a central coordinator
4. JG – with the church as the owner it prohibits certain opportunities
 - a. No public monies available
 - b. Prohibited from certain grants
 - c. We need to remove barriers

END of NOTES

Allen Theatre | 09045 | 8_20111208_Leichty_Gautsche_.doc

MEETING NOTES

Client: Downtown Goshen Inc.
Project: Goshen Theatre
Feasibility
Comm. No.: 11168.00
Phase No.: 01
File No.: B3

Purpose: User / Community Interviews - #9
Location: Goshen Chamber of Commerce
Meeting Date: 12/8/2011

Attendees | Distribution:

A	D				
		Matt	Janiak	Westlake Reed Leskosky	(216) 522.1350 Architect
		Alysha	Liljeqvist	Downtown Goshen Inc.	(203) 984-6922 Project Coordinator
		Myron	Bontrager	Electric Brew (owner) Church Pastor (building owner)	

1. Q: What are your goals for this project?
 - a. Enhance the community (economically, entertain, culturally)
 - b. Bring life and color to the downtown
2. Q: What role do you see the church playing in the project / process?
 - a. Possibly create a non-profit organization to run the theatre
 - b. Definitely be part of the future use of the space
 - i. Q: how would you use the space
 1. Every Sunday
 2. Main space and basement area
 3. 1 day a week for youth groups (Wednesday)
 4. Sunday night groups (2 per month)
 5. Keep our office space in the building
3. We have discussed the non-profit options with Randall Jacobs (Yoder, Ainlay, Ulmer & Buckingham, LLP), We could maintain controlling interest in the partnership
 - a. Discussed board of director (9 total with Church having 3 positions)
 - b. We would influence but not drive the decisions
4. Q: What do you think is important to keep in mind for the project?
 - a. The place should have a personality that that reflects the community
 - b. Keep the feel of the place today
5. Q: What things would you change?
 - a. Lighting and sound need upgrades
 - b. Needs to be accessible (ADA)
 - c. Average person shouldn't notice a major change

Allen Theatre | 09045 | 9_20111208_Bontrager.doc

MEETING NOTES

Continued

- d. 5th and main storm is connected and creates problems
 - e. Need to cap the storm sewer inside the building
 - f. Roof was done within the last 2 years and carries a 15 yr warranty
 - g. Alley side of building has water infiltration problem. This infiltration is from the alley grading, it slopes toward the building.
 - h. Alley side of building was tuck pointed in 2010
 - i. Electrical system had some upgrades around 2003.
6. Q: What uses do you see for the space?
- a. Should be a community event space
 - b. Music
 - c. Drama
 - d. More variety

END of NOTES

MEETING NOTES

Client: Downtown Goshen Inc.
Project: Goshen Theatre
Feasibility
Comm. No.: 11168.00
Phase No.: 01
File No.: B3

Purpose: User / Community Interviews - #10
Location: Goshen Chamber of Commerce
Meeting Date: 12/8/2011

Attendees | Distribution:

A	D				
		Matt	Janiak	Westlake Reed Leskosky	(216) 522.1350 Architect
		Alysha	Liljeqvist	Downtown Goshen Inc.	(203) 984-6922 Project Coordinator
		Jason	Oswald	Constant Spring (owner)	

1. Q: How would you use the Goshen theatre?
 - a. Could be like the Vic theatre (Chicago, IL)
 - i. Sort of a House of Blues feel
 - b. Needs to be a flexible venue
 - c. You could get patrons from South Bend
2. You should talk with Laura Gouin from New World Theatre.
3. Q: Would you use the theatre to produce larger music events that you cannot accommodate
 - a. yes

END of NOTES

MEETING NOTES

Client: Downtown Goshen Inc.
Project: Goshen Theatre
Comm. No.: Feasibility
Phase No.: 11168.00
File No.: 01
File No.: B3

Purpose: User / Community Interviews - #11
Location: Goshen Chamber of Commerce
Meeting Date: 12/7/2011

Attendees | Distribution:

A	D				
		Matt	Janiak	Westlake Reed Leskosky	(216) 522.1350 Architect
		Alysha	Liljeqvist	Downtown Goshen Inc.	(203) 984-6922 Project Coordinator
		Adrienne	Nesbit(AN)	New World Theatre	
		Jessica	DeGroff(JD)	New World Theatre(AD)	
		Mike	Honderich(MH)	New World Theatre(TD)	
		Laura	Gouin	New World Theatre	

- AN - New World Theatre (NWT) is an introspective group started by students from Goshen College in 1998.
 - Who's afraid of Virginia Wolf
 - Can be controversial theatre
 - 24/7 festival
- (JD, MH) – NWT could produce in other places
 - Would like to produce a musical, would do 1 per year
- Ticket prices are \$10 per show
- NWT can draw from as far as South Bend
- Season (planned 6 months in advance):
 - 7 main shows
 - 24/7 festival
 - Improv series (always sells out)
- Patron age range: 20-40
- NWT does package "Night Out" deals with local restaurants
- Some revenue is contributed
- Would be interested in producing in the Goshen theatre
- Suggest we should talk with Melanie Wade (dance instructor), her troop (10 people) doesn't have a place to perform.

END of NOTES

Allen Theatre | 09045 | 11_ 20111208_New World Theatre.doc

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Planning Successful Rehabilitation Projects

Interiors

Identifying Primary and Secondary Interior Spaces in Historic Buildings

This document provides guidance on identifying and evaluating significant elements in the interior of a building, to clarify those elements that must be retained or minimally modified in a rehabilitation project, and those that can undergo greater change or modification.

This process has already been covered in some detail in [Preservation Brief 18: Rehabilitating Interiors in Historic Buildings](#)¹⁸.

This document complements that guidance, drawing from its terminology and general approach while providing more specific steps and questions it may be useful to ask, as well as a section covering typical elements to consider in specific building types.

A thorough evaluation of all historic elements of a building in the planning stages of a project will help ensure that the project can be completed successfully by maintaining the building's historic character. Following the guidance below will help accomplish the evaluation. This review is part of a three-step process involving researching and documenting the building's history, evaluating the building's historic elements, and assessing changes to the building proposed in a rehabilitation project.

Evaluating the interior of a building involves two aspects: identifying which elements of the interior are historic, including those changes that have acquired significance; and evaluating the significance and physical condition of those elements. It is useful to note that determinations of historic significance for these evaluations are tied to the stated period of significance in the National Register nomination for the individual building or for the historic district in which the building is located.

Historic elements may be evaluated as either **primary** or **secondary**. Primary elements are those that are important in defining the historic character of a building and that should be retained or only minimally altered. Secondary elements are less critical in contributing to the historic character and may be able to undergo greater change without substantially impacting the building's overall historic character. It should be recognized that these elements are more likely to lie on a continuum of most to least important, rather than simply falling into one category or the other, and the amount of acceptable change will have an inverse relationship to that importance, depending on other factors such as physical condition.

Elements can be categorized as pertaining to the building's **plan**; the individual interior **spaces** or sequences of spaces; or architectural **features, finishes** or **materials** that may have sufficient importance and physical integrity to be retained or only minimally altered.

Differentiating between primary and secondary elements is very important. The following definitions may help in evaluating these elements.

Primary spaces are those that are essential in conveying the historic and architectural character of a building. They are most often associated with the primary use or purpose for which the building was designed or used during its period of significance and can vary greatly from building to building.

Where a public to private progression can be identified in the spaces of a building, the most public spaces will usually be the primary spaces. Entrance hall and parlor, and lobby and corridors are common examples of primary spaces. Similarly when spaces of a building vary in their architectural detailing, those that are the most elaborate are usually the primary spaces. This is not to say, however, that a private space or a simple unornamented space cannot be primary.

Some buildings, such as churches, theaters or gymnasiums, contain single large spaces that accommodate the principal use. These are easy to identify as the primary space of the building.

However, in some buildings such as hospitals, apartment buildings or other buildings consisting of multiple units that serve similar functions, it may be the sequences and interrelationships of spaces that are most important in defining the character of the building. Such buildings must be evaluated carefully to determine the importance of all the related elements in the context of the building being

assessed.

Secondary spaces are less critical in defining a building's importance within its period of significance. They often still help define the building's significance and character, but because of their size, location, or function their impact is not felt as strongly when progressing through the building. Thus, altering these spaces may not significantly impair the ability of the overall building to convey its primary historic significance.

A secondary space is usually a more simply detailed space with restricted access – such as an office, hotel guestroom, or a bedroom – or a utilitarian space that serves a support function within a building – such as a kitchen or bathroom. Generally, these spaces are less architecturally detailed and subordinate in character to the primary spaces to which they relate.

The **physical condition** of interior elements will frequently affect their historic character and how they contribute to the historic significance of the building. If an interior plan has been heavily altered, it may no longer adequately convey its importance to the building's character, and further changes may be more acceptable. Conversely, if a bedroom in a rowhouse still retains many of its features such as moldings, fireplaces and doors, then significant alterations in the space may not be appropriate. And, while secondary spaces such as offices behind a corridor typically may be able to accept major plan changes, if features such as historic trim and woodwork around the perimeter wall of the building are still extant they should be retained.

To aid in evaluating the significance and integrity of each of these categories of elements it may be helpful to ask the following questions about a building's plan, spaces, features, and finishes and materials.. These are not comprehensive but, instead, suggest how an evaluation may proceed in order to cover the significant elements of any building.

Plans

Does the building have a floor plan that is an important characteristic of the building type, style, or period of construction or historic function?

Is the plan symmetrical and is this symmetry an important characteristic of the building type or style? Conversely, is the asymmetry an important characteristic?

Has the plan been altered over time? Have the alterations been additive (large rooms subdivided into smaller ones); or have the alterations been subtractive (walls removed)?

Does the plan retain its basic integrity?

Spaces

Are there rooms or spaces that are architecturally or historically significant?

Have rooms survived that are characteristic of the building type or style or that are associated with specific persons or patterns of events?

Is there a sequence of spaces that has been consciously designed or that is especially important to the understanding and appreciation of the building or the architect? Examples might include a foyer opening into a large hall; front and rear parlors connected by pocket doors; office lobby opening into an elevator hall; hallway to stairwell to upper hallway, etc.

Does the space have distinctive proportions – ceiling height to room size, for example?

Are the room shapes or volumes in any way unusual? Examples may include rooms with curved walls, rooms with six or eight walls, or rooms with vaulted ceilings.

Are the rooms a consciously designed "whole," that is, are the space, features, and finishes part of an integral design?

Have the spaces retained their architectural integrity, despite alterations and deterioration?

Do the spaces reflect the exterior design, e.g., tall windows indicating an assembly space on the second floor?

Features

Are there architectural details that are characteristic of the period of significance, construction or historic function? Examples might include wainscoting, parquet flooring, picture molding, mantels, ceiling medallions, built-in bookshelves and cabinets, crown molding, arches, as well as simpler, more utilitarian features, such as plain window and door trim.

Are there features that indicate later changes and alterations that have gained significance over time? Examples might include lobby alterations, changes to wall and floor finishes, and later millwork.

Are there features that were worked by hand, or that exhibit fine craftsmanship or are characteristic of the building style or type?

Have the features survived intact in one or more rooms?

Is the ceiling vaulted, coffered, decorated with plasterwork, domed, or otherwise embellished?

What is the condition of the features: can they be retained and preserved?

Finishes/Materials

Are there surviving historic finishes that can reasonably be retained and preserved? Examples might include plaster, tile, flooring, and marble?

What is the condition of the finishes, e.g., has water damage been so severe as to render the finishes unsalvageable?

Are there finishes such as graining that are characteristic of a period or style of architecture?

Evaluating Interior Elements – Typical Building Types

Certain building types tend to have common types of plans, spaces, features, and finishes; for example, most schools can be expected to have auditoriums and most rowhouses can be expected to have a front parlor. Assessing the importance and condition of these architectural elements is the essential component of evaluating any interior rehabilitation proposal.

In virtually all cases, a project will not meet the Secretary of Interior's Standards for Rehabilitation if, as a result of the rehabilitation, the interior has lost all vestiges of its past; in these cases, the sense of time and place has been lost that was associated both with the building and the district in which it is located. Radical transformations of the sequence of spaces, or of the trim and finishes can be justified only in exceptional cases, where the interior deterioration is so extreme that the building can be said to retain its significance only by virtue of a high degree of integrity on the exterior.

Listed below are major building types that are commonly rehabilitated, with general statements about the relative importance of architectural elements often found in them. The guidance is not intended to be comprehensive, but rather is intended to help make consistent decisions about interior rehabilitation treatments in keeping with the Standards for Rehabilitation. A certain degree of repetition may be noted from building type to building type – for instance, it is always recommended to retain historic window and door trim.

Houses, Rowhouses, and Duplexes

Apartment Buildings and Tenements

Shotgun Houses

Schools

Factories, Industrial Buildings, and Warehouses

Fraternal and Lodge Halls

Commercial Office Buildings

Churches

Hotels

Hospitals

Despite generalizations about certain building types, it is important to keep in mind that what may be an acceptable rehabilitation approach for one building may not be acceptable for another. For example, in one school, subdividing a simple, unadorned auditorium with no association with important persons or events may be an appropriate treatment, while in another, the elaborately detailed auditorium (space, features, and finishes) may warrant retention or minimal alteration. **It is also important to recognize that a plain, simply detailed 19th-century worker's house is neither more nor less significant than a highly ornamented, high-style townhouse of the same period.** Both resources, if equally intact, deserve the same careful rehabilitation that respects the qualities for which designation as "certified historic structure" was granted.

Each evaluation is unique, taking into account the facts and circumstances of the building in question.

Houses, Rowhouses, and Duplexes

These elements tend to be character-defining interior elements and should be retained.

- Basic floor plan
- Features and details that are characteristic of the architectural style of the house
- Entertaining and living spaces, such as entry halls or foyers, parlors and dining rooms
- Primary staircase
- Floor-to-ceiling height in primary rooms
- Fireplaces, mantelpieces, and finishes on chimney breasts
- Architectural detailing including window and door trim, baseboards, picture rails, cornices, etc.
- Doors and windows
- Historic floors
- Historic hardware and fixtures, sometimes including lighting, radiators (if distinctive), knobs, pulls, and hinges

These elements tend to be of less importance and may be able to accept greater intervention in the process of rehabilitation.

- Bedrooms, assuming the basic floor plan is retained
- Bathrooms and kitchens
- Secondary staircases
- Attached garages
- Utilitarian spaces such as closets and laundry rooms
- Basements and attics

Apartment Buildings and Tenements

These elements tend to be character-defining interior elements and should be retained.

- General plan of the building including location of hallways, circulation patterns, arrangement of apartments off central hallways (or entries)
- Overall character of design, spaces, details, and finishes—whether simple and utilitarian or highly decorative
- Historic public entrance(s) and lobbies
- Primary staircase(s)
- Elevator lobbies including space, features and finishes
- Corridors and doors off corridors
- Principal spaces within apartments, such as the foyer, living room, dining room, etc.
- Architectural detailing including window and door trim, baseboards, picture rails, cornice, etc.
- Doors and windows
- Historic floors

These elements tend to be of less importance and may be able to accept greater intervention in the process of rehabilitation.

- Room dimensions, unless rooms are detailed or carefully proportioned
- Kitchens and bathrooms
- Utilitarian spaces such as laundry rooms, storage areas, boiler rooms, etc.
- Secondary staircases
- Secondary spaces within individual units

Shotgun Houses

These elements listed below tend to be character-defining interior elements and should be retained.

- Linear floor plan
- Sequence of spaces
- Basic floor-to-ceiling height
- Architectural detailing including window and door trim, transom lights, baseboards, etc.
- Doors and windows

These elements tend to be of less importance and may be able to accept greater intervention in the process of rehabilitation.

- Kitchens and bathrooms
- Actual dimensions in rear rooms

Schools

These elements tend to be character-defining interior elements and should be retained.

- Historic public entrances
- Configuration and width of corridors
- Main staircases
- Generous floor-to-ceiling heights
- Auditoriums, gymnasiums or other large assembly spaces where space, features and finishes create an architectural statement or where the space is of historic importance
- Architecturally-detailed spaces such as the principal's office or library
- Unusual ceiling treatments such as vaults, coffers, etc.
- Architectural detailing including wainscoting, marble, beaded board, decorative plaster, window and door trim, baseboards, etc.
- Windows, doors, and transom lights

These elements tend to be of less importance and may be able to accept greater intervention in the process of rehabilitation.

- Large assembly spaces that are not architecturally distinguished or historically important, or have been altered
- Secondary staircases
- Kitchens and bathrooms

- Utilitarian spaces such as cloakrooms, janitor's closets, boiler rooms, and storage areas
- Classroom size and actual room dimensions
- Blackboards

Factories, Industrial Buildings, and Warehouses

These elements tend to be character-defining interior elements and should be retained.

- Generous floor-to-ceiling height
- Structural systems such as wood beams, cast iron or steel columns, and truss systems
- Main stairs and stair towers
- Company offices
- Historic equipment, such as cranes and pulleys
- Architectural detailing including wainscoting, window and door trim, baseboards, etc.
- Doors and windows

These elements tend to be of less importance and may be able to accept greater intervention in the process of rehabilitation.

- Full sense of open space if some sections are maintained
- Actual floor-to-ceiling height, if new ceilings are set above or significantly back from windows
- Secondary stairs

Fraternal and Lodge Halls

These elements tend to be character-defining interior elements and should be retained.

- Entrance, lobby and general arrangement of spaces
- Main meeting rooms
- Floor-to-ceiling height
- Main staircases
- Proscenium arch and stage
- Architectural detailing including wainscoting, ornamental ceilings, wall finishes, window and door trim, baseboards, fireplace mantels, etc.
- Windows and doors
- Historic floors

These elements tend to be of less importance and may be able to accept greater intervention in the process of rehabilitation.

- Secondary or altered meeting spaces
- Secondary staircases
- Kitchens and bathrooms
- Utilitarian spaces such as storage areas, coat rooms, etc.

Commercial Office Buildings

These elements tend to be character-defining interior elements and should be retained.

- Historic corridor plan, including upper floors
- Historic public entrance(s) and lobby
- Main staircases
- Elevator lobbies: space, features and finishes (including upper floors)
- Executive office suites, board rooms, other meeting rooms and banking rooms
- Generous floor-to-ceiling heights
- Office doors, particularly those with transom lights above
- Light fixtures in public spaces
- Windows in corridors
- Architectural detailing including elevator doors, ornamental ceilings, wainscoting, wall finishes in public areas, window and door trim, baseboards, etc.
- Doors and windows

These elements tend to be of less importance and may be able to accept greater intervention in the process of rehabilitation.

- Full length of corridors
- Office wall partitions on upper floors, if undistinguished architecturally
- Exact floor-to-ceiling heights on upper floors, if new ceilings are set above or significantly back from windows
- Secondary staircases

- Utilitarian spaces such as storage rooms, boiler rooms, etc.

Churches

These elements tend to be character-defining interior elements and should be retained.

- Historic public entrance(s) and vestibule
- Sanctuary space and volume
- Balcony
- Vestry hall
- Stairs to balcony space
- Doors and windows (configuration, size, and glazing)
- Architectural detailing including columns, ornamental ceilings, flooring, lighting fixtures, stairways, wainscoting, window and door trim, baseboards, etc.

These elements tend to be of less importance and may be able to accept greater intervention in the process of rehabilitation.

- Secondary public spaces
- Sunday school classrooms
- Sacristies
- Fellowship halls
- Offices
- Kitchens and bathrooms
- Utilitarian spaces such as storage rooms, coat rooms, boiler rooms, etc.

Hotels

These elements tend to be character-defining interior elements and should be retained.

- Historic public entrance(s) and lobby
- Configuration and width of corridors
- Main stairs and elevator lobbies
- Commercial arcades on ground floor
- Floor-to-ceiling heights on ground floor
- Main ballrooms and reception rooms
- Architectural detailing including registration desks, columns, lighting elements, fountains, fireplaces, mantels, ornamental ceilings, wainscoting, door surrounds and transoms, window trim, baseboards, etc.
- Doors and windows

These elements tend to be of less importance and may be able to accept greater intervention in the process of rehabilitation.

- Full length of corridors, depending on circumstances
- Secondary gathering spaces
- Individual guest rooms off corridors
- Service elevators
- Secondary staircases
- Kitchens and bathrooms
- Utilitarian spaces such as service pantries, laundries, coatrooms, service corridors, etc.
- Parking facilities

Hospitals

These elements tend to be character-defining interior elements and should be retained.

- Historic public entrance(s) and lobby
- Reception office or alcove
- Main stairs and elevator lobbies
- Configuration and width of corridors
- Entrances to wards
- Daylight rooms or solariums
- Chapel
- Operating theaters
- Dining rooms
- Floor-to-ceiling heights in public areas
- Architectural detailing including decorative plaster, ornamental ceilings, columns, wainscoting, chair rail, window and door trim,

baseboards, etc.

- Historic floors, such as terrazzo
- Windows and doors

These elements tend to be of less importance and may be able to accept greater intervention in the process of rehabilitation.

- Full length of corridors, depending on circumstances
- Secondary staircases
- Ward or room dimensions
- Operating rooms
- Cafeterias
- Kitchens and bathrooms
- Utilitarian spaces such as laundries, boiler rooms, and storage rooms

Additional guidance »

[**Preservation Brief 18: Rehabilitating Interiors in Historic Buildings – Identifying Character-Defining Elements**](#)

[**Preservation Brief 17: Architectural Character – Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character**](#)



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Planning Successful Rehabilitation Projects

Interiors

Subdividing Assembly Spaces in Historic Buildings

Public assembly spaces in buildings such as churches, theaters, schools, sports arenas, fraternal lodge halls, and hotels are typically the most significant interior spaces in these buildings, and proposals for subdividing them must be carefully evaluated in the context of an overall rehabilitation. As a first step, the most successful approach in these situations is to consider a use for the space that maintains the public or group activity nature of the space, in order to minimize the need for subdivision.

The following criteria come into play when making an evaluation of how much change these spaces can accommodate and how to approach subdividing them. These considerations interact and should be taken collectively, to make a balanced assessment of the impact of proposed changes.

Role of the space in defining the character of the building

In buildings such as churches and theaters, the assembly space is usually of paramount importance and the entire building is often defined largely by its interior space. Consequently, it can be difficult to subdivide such spaces without impacting the character of the building as a whole.

Other buildings such as schools or hotels may have several public assembly spaces, and they may not all be of equal importance. The subdivision of one assembly space may have less impact on the overall building, depending on its relative prominence. For example, in a school with an intact auditorium, gymnasium and cafeteria, subdividing the cafeteria would likely be less of an issue than a similar treatment in the auditorium.

Spaces should be evaluated for their importance architecturally in the building, as well as functionally. If an auditorium or lodge hall is expressed on the exterior of the building with double-height windows, for example, that speaks to its significance in the spatial hierarchy of the building. The space may still be character defining without that expression, but its existence is an indication of the primary nature of the space.

Physical layout and condition

The physical arrangement of the interior may help dictate the most appropriate options for subdivision. Even primary assembly spaces may have secondary areas such as a stage behind a proscenium or the area under a balcony. In some cases these areas can be walled off with little impact on the overall space, depending on other factors such as relationship to the larger space, dimensions of the area and degree of architectural detail. Conversely, it will be harder to divide spaces with areas that are of equal importance, or spaces with a more tightly unified design, such as a church sanctuary with a strong axial plan.

As in other areas of the interior, the existing physical integrity also will influence how much change the space can accommodate. If finishes and features are deteriorated or missing or if the space has already been significantly altered, then its importance in defining the character of the building may be diminished enough to allow further changes. However, the impact of new alterations must be evaluated in the context of what integrity does still exist, the functional or architectural importance of the space in the building, and other proposed project treatments.

Manner of subdivision

The manner in which the space will be subdivided must also be considered. Treatments such as adding full-height walls or new floors that block the sense of volume of the space do not meet the Secretary of Interior's Standards for Rehabilitation, unless the space is a secondary or tertiary area in a building with other more important public rooms. However, divisions that do not intrude on the overall character and height of the interior may be appropriate. Lower partition walls in the main space, such as open office-height partitions in a two-story space, may be used in some instances. Also, in certain situations it may be possible to insert a mezzanine into secondary areas, if it has only a minimal impact in the space.

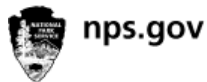
Existing historic features and finishes should also be retained to the maximum extent possible, and new vertical or horizontal partitions should not diminish their prominence and impact. For example, a new wall between a stage and auditorium space that is installed behind the proscenium rather than within the opening will keep the appearance of the stage boundary dominant.

For more general guidance regarding changes to interior spaces, please refer to [Changing Secondary Interior Spaces in Historic Buildings](#).

Additional guidance »

[Preservation Brief 18: Rehabilitating Interiors in Historic Buildings – Identifying Character-Defining Elements](#)

[Preservation Brief 17: Architectural Character – Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character](#)



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Planning Successful Rehabilitation Projects

Interiors

Changing Secondary Interior Spaces in Historic Buildings

Secondary interior spaces are less critical in defining a building's importance than the primary spaces. They often still help define the building's significance and character, but because of their size, location, or function their impact is not felt as strongly when moving through the building. Altering these spaces may not significantly impair the ability of the overall building to convey its primary historic significance. (Refer to [Identifying Primary and Secondary Spaces in Historic Buildings](#) for more information.) Therefore, secondary spaces offer more opportunities for change and alteration compared to what is allowed in primary spaces. Appropriate changes may range from removal of existing partitions and addition of new partitions, to insertion of new floors, cutting openings in existing floors or ceilings and other modifications depending on the location and condition of the space. The opportunities and limitations for change must be identified within the following context.

Spaces may be subdivided both vertically through the insertion of new walls or horizontally through the insertion of new floors or mezzanines. New vertical or horizontal divisions must not intersect or alter the interior or exterior appearance of existing windows, doors, or other architectural features, especially when these changes can be seen from primary spaces or visible exterior elevations. Even if secondary spaces are subdivided, historic architectural features and finishes that contribute to the character of the space should be retained.

Secondary spaces that have been previously modified and lack important architectural features or finishes allow greater opportunity for change. New modifications must not alter the historic character of the space. New treatments that require removing all existing finishes, whether historic or not, and exposing structural elements in buildings where this is not in keeping with the historic appearance of the property's interior are not appropriate. Conversely, creating highly decorated or elaborate interior rooms and spaces in buildings that were historically devoid of such features is also not appropriate.

New floor openings must generally be contained within secondary spaces and be of a limited size. New stairs to provide a secondary means of egress may be placed within secondary spaces. However, a new floor cut must be placed away from exterior walls, particularly if there are windows and other openings in the wall through which the new floor cut would be visible from a public right-of-way. In addition, floor cuts should leave portions of the floor in place around the new openings and should appear as cuts into existing floors, not as a wall-to-wall removal of floor material that leaves a gap in the floor across the building.

In general, secondary spaces provide opportunities for change necessary to convert a building to a new use while maintaining its overall architectural character in accordance with the [Secretary of the Interior's Standards for Rehabilitation](#).

Additional guidance »

[Preservation Brief 18: Rehabilitating Interiors in Historic Buildings – Identifying Character-Defining Elements](#)

[Preservation Brief 17: Architectural Character – Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character](#)



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2 Preservation Briefs

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Repointing Mortar Joints in Historic Masonry Buildings

Robert C. Mack, FAIA, and John P. Speweik

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A NOTE TO OUR USERS: The web versions of the **Preservation Briefs** differ somewhat from the printed versions. Many illustrations are new, captions are simplified, illustrations are typically in color rather than black and white, and some complex charts have been omitted.



Masonry--brick, stone, terra-cotta, and concrete block--is found on nearly every historic building.

Structures with all-masonry exteriors come to mind immediately, but most other buildings at least have masonry foundations or chimneys. Although generally considered "permanent," masonry is subject to deterioration, especially at the mortar joints. Repointing, also known simply as "pointing" or--somewhat inaccurately--"tuck pointing"*, is the process of removing deteriorated mortar from the joints of a masonry wall and replacing it with new mortar. Properly done, repointing restores the visual and physical integrity of the masonry. Improperly done, repointing not only detracts from the appearance of the building, but may also cause physical damage to the masonry units themselves.

The purpose of this Brief is to provide general guidance on appropriate materials and methods for repointing historic masonry buildings and it is intended to benefit building owners, architects, and contractors. The Brief should serve as a guide to prepare specifications for repointing historic masonry buildings. It should also help develop sensitivity to the particular needs of historic masonry, and to assist historic building owners in working cooperatively with architects, architectural conservators and historic preservation consultants, and contractors. Although specifically intended for historic buildings, the guidance is appropriate for other masonry buildings as well. This publication updates *Preservation Briefs 2: Repointing Mortar Joints in Historic Brick Buildings* to include all types of historic unit masonry. The scope of the earlier Brief has also been expanded to acknowledge that the many buildings constructed in the first half of the 20th century are now historic and eligible for listing in the National Register of Historic Places, and that they may have been originally constructed with portland cement mortar.

**Tuckpointing technically describes a primarily decorative application of a raised mortar joint or lime putty joint on top of flush mortar joints.*

Historical Background

Mortar consisting primarily of lime and sand has been used as an integral part of masonry structures for thousands of years. Up until about the mid-19th century, lime or quicklime (sometimes called lump lime) was delivered to construction sites, where it had to be slaked, or combined with water. Mixing with water caused it to boil and resulted in a wet lime putty that was left to mature in a pit or wooden box for several weeks, up to a year. Traditional mortar was made from lime putty, or slaked lime, combined with local sand, generally in a ratio of 1 part lime putty to 3 parts sand by volume. Often other ingredients, such as crushed marine shells (another source of lime), brick dust, clay, natural cements, pigments, and even animal hair were also added to mortar, but the basic formulation for lime putty and sand mortar remained unchanged for centuries until the advent of portland cement or its forerunner, Roman cement, a natural, hydraulic cement.

Portland cement was patented in Great Britain in 1824. It was named after the stone from Portland in Dorset which it resembled when hard. This is a fast-curing, hydraulic cement which hardens under water. Portland cement was first manufactured in the United States in 1872, although it was imported before this date. But it was not in common use throughout the country until the early 20th century. Up until the turn of the century portland cement was considered primarily an additive, or "minor ingredient" to help accelerate mortar set time. By the 1930s, however, most masons used a mix of equal parts portland cement and lime putty. Thus, the mortar found in masonry structures built between 1873 and 1930 can range from pure lime and sand mixes to a wide variety of lime, portland cement, and sand combinations.

In the 1930s more new mortar products intended to hasten and simplify masons' work were introduced in the U.S. These included **masonry cement**, a premixed, bagged mortar which is a combination of portland cement and ground limestone, and **hydrated lime**, machine-slaked lime that eliminated the necessity of slaking quicklime into putty at the site.

Identifying the Problem Before Repointing

The decision to repoint is most often related to some obvious sign of deterioration, such as disintegrating mortar, cracks in mortar joints, loose bricks or stones, damp walls, or damaged plasterwork. It is, however, erroneous to assume that repointing alone will solve deficiencies that result from other problems. The root cause of the deterioration--leaking roofs or gutters, differential settlement of the building, capillary action causing rising damp, or extreme weather exposure--should always be dealt with prior to beginning work.

Without appropriate repairs to eliminate the source of the problem, mortar deterioration will continue and any repointing will have been a waste of time and money.

Use of Consultants. Because there are so many possible causes for deterioration in historic buildings, it may be desirable to retain a consultant, such as a historic architect or architectural conservator, to analyze the building. In addition to determining the most appropriate solutions to the problems, a consultant can prepare specifications which reflect the particular requirements of each job and can provide oversight of the work in progress. Referrals to preservation consultants frequently can be obtained from State Historic Preservation Offices, the American Institute for Conservation of Historic and Artistic Works (AIC), the Association for Preservation Technology (APT), and local chapters of the American Institute of Architects (AIA).



Masons practice using lime putty mortar to repair historic marble. Photo: NPS files.

Finding an Appropriate Mortar Match

Preliminary research is necessary to ensure that the proposed repointing work is both physically and visually appropriate to the building. Analysis of unweathered portions of the historic mortar to which the new mortar will be matched can suggest appropriate mixes for the repointing mortar so that it will not damage the building because it is excessively strong or vapor impermeable.



This late 19th century granite has recently been repointed with the joint profile and mortar color carefully matched to the original. Photo: NPS files.

Examination and analysis of the masonry units--brick, stone or terra cotta--and the techniques used in the original construction will assist in maintaining the building's historic appearance. A simple, non-technical, evaluation of the masonry units and mortar can provide information concerning the relative strength and permeability of each--critical factors in selecting the repointing mortar--while a visual analysis of the historic mortar can provide the information necessary for developing the new mortar mix and application techniques.

Although not crucial to a successful repointing project, for projects involving properties of special historic significance, a mortar analysis by a qualified laboratory can be useful by providing information on the original ingredients. However, there are limitations with such an analysis, and replacement mortar specifications should not be based solely on laboratory analysis.

Analysis requires interpretation, and there are important factors which affect the condition and performance of the mortar that cannot be established through laboratory analysis. These may include: the original water content, rate of curing, weather conditions during original construction, the method of mixing and placing the mortar, and the cleanliness and condition of the sand. *The most useful information that can come out of laboratory analysis is the identification of sand by gradation and color.* This allows the color and the texture of the mortar to be matched with some accuracy because sand is the largest ingredient by volume.

In creating a repointing mortar that is compatible with the masonry units, the objective is to achieve one that matches the historic mortar as closely as possible, so that the new material can coexist with the old in a sympathetic, supportive and, if necessary, sacrificial capacity. The exact physical and chemical properties of the historic mortar are not of major significance as long as the new mortar conforms to the following criteria:

- The new mortar must match the historic mortar in **color, texture and tooling**. (If a laboratory analysis is undertaken, it may be possible to match the binder components and their proportions with the historic mortar, if those materials are available.)
 - The **sand must match the sand** in the historic mortar. (The color and texture of the new mortar will usually fall into place if the sand is matched successfully.)
 - The new mortar must have **greater vapor permeability** and be **softer** (measured in compressive strength) than the masonry units.
 - The new mortar must be **as vapor permeable** and **as soft or softer** (measured in compressive strength) than the historic mortar. (Softness or hardness is not necessarily an indication of permeability; old, hard lime mortars can still retain high permeability.)
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This mortar is the proper consistency for repointing historic brick. Photo: John P. Speweik.

Mortar Analysis

Methods for analyzing mortars can be divided into two broad categories: **wet chemical** and **instrumental**. Many laboratories that analyze historic mortars use a simple **wet-chemical** method called acid digestion, whereby a sample of the mortar is crushed and then mixed with a dilute acid. The acid dissolves all the carbonate-containing minerals not only in the binder, but also in the aggregate (such as oyster shells, coral sands, or other carbonate-based materials), as well as any other acid-soluble materials. The sand and fine-grained acid-insoluble material is left behind. There are several variations on the simple acid digestion test. One involves collecting the carbon dioxide gas given off as the carbonate is digested by the acid; based on the gas volume the carbonate content of the mortar can be accurately determined (Jedrzejewska, 1960). Simple acid digestion methods are rapid, inexpensive, and easy to perform, but the information they provide about the original composition of a mortar is limited to the color and texture of the sand. The gas collection method provides more information about the binder than a simple acid digestion test.

Instrumental analysis methods that have been used to evaluate mortars include polarized light or thin-section microscopy, scanning electron microscopy, atomic absorption spectroscopy, X-ray diffraction, and differential thermal analysis. All instrumental methods require not only expensive, specialized equipment, but also highly-trained experienced analysts. However, instrumental methods can provide much more information about a mortar. Thin-section microscopy is probably the most commonly used instrumental method. Examination of thin slices of a mortar in transmitted light is often used to supplement acid digestion methods, particularly to look for carbonate-based aggregate. For example, the new ASTM test method, ASTM C 1324-96 "Test Method for Examination and Analysis of Hardened Mortars" which was designed specifically for the analysis of modern lime-cement and masonry cement mortars, combines a complex series of wet chemical analyses with thin-section microscopy.

The drawback of most mortar analysis methods is that mortar samples of known composition have not been analyzed in order to evaluate the method. Historic mortars were not prepared to narrowly defined specifications from materials of uniform quality; they contain a wide array of locally derived materials combined at the discretion of the mason. While a particular method might be able to accurately determine the original proportions of a lime-cement-sand mortar prepared from modern materials, the usefulness of that method for evaluating historic mortars is questionable unless it has been tested against mortars prepared from materials more commonly used in the past. **Lorraine Schnabel.**

Properties of Mortar

Mortars for repointing should be softer or more permeable than the masonry units and no harder or more impermeable than the historic mortar to prevent damage to the masonry units. It is a common error to assume that hardness or high strength is a measure of appropriateness, particularly for lime-based historic mortars. Stresses within a wall caused by expansion, contraction, moisture migration, or settlement must be accommodated in some manner; in a masonry wall, these stresses should be relieved by the mortar rather than by the masonry units. A mortar that is stronger in compressive strength than the masonry units will not "give," thus causing stresses to be relieved through the masonry units--resulting in permanent damage to the masonry, such as cracking and spalling, that cannot be repaired easily.

While stresses can also break the bond between the mortar and the masonry units, permitting water to penetrate the resulting hairline cracks, this is easier to correct in the joint through repointing than if the break occurs in the masonry units.

Permeability, or rate of vapor transmission, is also critical. High lime mortars are more permeable than denser cement mortars. Historically, mortar acted as a bedding material--not unlike an expansion joint--rather than a "glue" for the masonry units, and moisture was able to migrate through the mortar joints rather than the masonry units. When moisture evaporates from the masonry it deposits any soluble salts either on the surface as *efflorescence* or below the surface as *subflorescence*. While salts deposited on the surface of masonry units are usually relatively harmless, salt crystallization within a masonry unit creates pressure that can cause parts of the outer surface to spall off or delaminate. If the mortar does not permit moisture or moisture vapor to migrate out of the wall and evaporate, the result will be damage to the masonry units.



This early 19th century building is being repointed with lime mortar. Photo: Travis McDonald.

Components of Mortar

Sand. Sand is the largest component of mortar and the material that gives mortar its distinctive color, texture and cohesiveness. Sand must be free of impurities, such as salts or clay. The three key characteristics of sand are: particle shape, gradation and void ratios.

When viewed under a magnifying glass or low-power microscope, particles of sand generally have either rounded edges, such as found in beach and river sand, or sharp, angular edges, found in crushed or manufactured sand. For repointing mortar, rounded or natural sand is preferred for two reasons. It is usually similar to the sand in the historic mortar and provides a better visual match. It also has better working qualities or plasticity and can thus be forced into the joint more easily, forming a good contact with the remaining historic mortar and the surface of the adjacent masonry units. Although manufactured sand is frequently more readily available, it is usually possible to locate a supply of rounded sand.

The gradation of the sand (particle size distribution) plays a very important role in the durability and cohesive properties of a mortar. Mortar must have a certain percentage of large to small particle sizes in order to deliver the optimum performance. Acceptable guidelines on particle size distribution may be found in ASTM C 144 (American Society for Testing and Materials). However, in actuality, since neither historic nor modern sands are always in compliance with ASTM C 144, matching the same particle appearance and gradation usually requires sieving the sand.

A scoop of sand contains many small voids between the individual grains. A mortar that performs well fills all these small voids with binder (cement/lime combination or mix) in a balanced manner. Well-graded sand generally has a 30 per cent void ratio by volume. Thus, 30 per cent binder by volume generally should be used, unless the historic mortar had a different binder: aggregate ratio. This represents the 1:3 binder to sand ratios often seen in mortar specifications.

For repointing, sand generally should conform to ASTM C 144 to assure proper gradation and freedom from impurities; some variation may be necessary to match the original size and gradation. Sand color and texture also should match the original as closely as possible to provide the proper color match without other additives.

Lime. Mortar formulations prior to the late-19th century used lime as the primary binding material. Lime is derived from heating limestone at high temperatures which burns off the carbon dioxide, and turns the limestone into quicklime. There are three types of limestone--calcium, magnesium, and dolomitic--differentiated by the different levels of magnesium carbonate they contain which impart specific qualities to mortar. Historically, calcium lime was used for mortar rather than the dolomitic lime (calcium magnesium carbonate) most often used today. But it is also important to keep in mind the fact that the historic limes, and other components of mortar, varied a great deal because they were natural, as opposed to modern lime which is manufactured and, therefore, standardized. Because some of the kinds of lime, as well as other components of mortar, that were used historically are no longer readily available, even when a conscious effort is made to replicate a "historic" mix, this may not be achievable due to the differences between modern and historic materials.



Caulking was inappropriately used here in place of mortar on the top of the wall. As a result, it has not been durable. Photo: NPS files.

Lime, itself, when mixed with water into a paste is very plastic and creamy. It will remain workable and soft indefinitely, if stored in a sealed container. Lime (calcium hydroxide) hardens by carbonation absorbing carbon dioxide primarily from the air, converting itself to calcium carbonate. Once a lime and sand mortar is mixed and placed in a wall, it begins the process of carbonation. If lime mortar is left to dry too rapidly, carbonation of the mortar will be reduced, resulting in poor adhesion and poor durability. In addition, lime mortar is slightly water soluble and thus is able to re-seal any hairline cracks that may develop during the life of the mortar. Lime mortar is soft, porous, and changes little in volume during temperature fluctuations thus making it a good choice for historic buildings. *Because of these qualities, high calcium lime mortar may be considered for many repointing projects, not just those involving historic buildings.*

For repointing, lime should conform to ASTM C 207, Type S, or Type SA, Hydrated Lime for Masonry Purposes. This machine-slaked lime is designed to assure high plasticity and water retention. The use of quicklime which must be slaked and soaked by hand may have advantages over hydrated lime in some restoration projects if time and money allow.

Lime putty. Lime putty is slaked lime that has a putty or paste-like consistency. It should conform to ASTM C 5. Mortar can be mixed using lime putty according to ASTM C 270 property or proportion specification.

Portland cement. More recent, 20th-century mortar has used portland cement as a primary binding material. A straight portland cement and sand mortar is extremely hard, resists the movement of water, shrinks upon setting, and undergoes relatively large thermal movements. When mixed with water, portland cement forms a harsh, stiff paste that is quite unworkable, becoming hard very quickly. (Unlike lime, portland cement will harden regardless of weather conditions and does not require wetting and drying cycles.) Some portland cement assists the workability and plasticity of the mortar without adversely affecting the finished project; it also provides early strength to the mortar and speeds setting. Thus, it may be appropriate to add some portland cement to an essentially lime-based mortar even when repointing relatively soft 18th or 19th century brick under some circumstances when a slightly harder mortar is required. The more portland cement that is added to a mortar formulation the harder it becomes--and the faster the initial set.

For repointing, portland cement should conform to ASTM C 150. White, non-staining portland cement may provide a better color match for some historic mortars than the more commonly available grey portland cement. But, it should not be assumed, however, that white portland cement is always appropriate for all historic buildings, since the original mortar may have been mixed with grey cement. The cement should not have more than 0.60 per cent alkali to help avoid efflorescence.

Masonry cement. Masonry cement is a preblended mortar mix commonly found at hardware and home repair stores. It is designed to produce mortars with a compressive strength of 750 psi or higher when mixed with sand and water at the job site. It may contain hydrated lime, but it always contains a large amount of portland cement, as well as ground limestone and other workability agents, including air-entraining agents. Because masonry cements are not required to contain hydrated lime, and generally do not contain lime, they produce high strength mortars that can damage historic masonry. *For this reason, they generally are not recommended for use on historic masonry buildings.*

Lime mortar (pre-blended). Hydrated lime mortars, and pre-blended lime putty mortars with or without a matched sand are commercially available. Custom mortars are also available with color. In most instances, pre-blended lime mortars containing sand may not provide an exact match; however, if the project calls for total repointing, a pre-blended lime mortar may be worth considering as long as the mortar is compatible in strength with the masonry. If the project involves only selected, "spot" repointing, then it may be better to carry out a mortar analysis which can provide a custom pre-blended lime mortar with a matching sand. In either case, if a preblended lime mortar is to be used, it should contain Type S or SA hydrated lime conforming to ASTM C 207.

Water. Water should be potable--clean and free from acids, alkalis, or other dissolved organic materials.

Other Components

Historic components. In addition to the color of the sand, the texture of the mortar is of critical importance in duplicating historic mortar. Most mortars dating from the mid-19th century on--with some exceptions--have a fairly homogeneous texture and color. Some earlier mortars are not as uniformly textured and may contain lumps of partially burned lime or "dirty lime", shell (which often provided a source of lime, particularly in coastal areas), natural cements, pieces of clay, lampblack or other pigments, or even animal hair. The visual characteristics of these mortars can be duplicated through the use of similar materials in the repointing mortar.

Replicating such unique or individual mortars will require writing new specifications for each project. If possible, suggested sources for special materials should be included. For example, crushed oyster shells can be obtained in a variety of sizes from poultry supply dealers.

Pigments. Some historic mortars, particularly in the late 19th century, were tinted to match or contrast with the brick or stone. Red pigments, sometimes in the form of brick dust, as well as brown, and black pigments were commonly used. Modern pigments are available which can be added to the mortar at the job site, but they should not exceed 10 per cent by weight of the portland cement in the mix, and carbon black should be limited to 2 per cent. Only synthetic mineral oxides, which are alkali-proof and sun-fast, should be used to prevent bleaching and fading.

Modern components. Admixtures are used to create specific characteristics in mortar, and whether they should be used will depend upon the individual project. *Air entraining agents*, for example, help the mortar to resist freeze-thaw damage in northern climates. *Accelerators* are used to reduce mortar freezing prior to setting while *retarders* help to extend the mortar life in hot climates. Selection of admixtures should be made by the architect or architectural conservator as part of the specifications, not something routinely added by the masons.

Generally, modern chemical additives are unnecessary and may, in fact, have detrimental effects in historic masonry projects. The use of antifreeze compounds is not recommended. They are not very effective with high lime mortars and may introduce salts, which may cause efflorescence later. A better practice is to warm the sand and water, and to protect the completed work from freezing. No definitive study has determined whether air-entraining additives should be used to resist frost action and enhance plasticity, but in areas of extreme exposure requiring high-strength mortars with lower permeability, air-entrainment of 10-16 percent may be desirable (see formula for "severe weather exposure" in **Mortar Type and Mix**). Bonding agents are not a substitute for proper joint preparation, and they should generally be avoided. If the joint is properly prepared, there will be a good bond between the new mortar and the adjacent surfaces. In addition, a bonding agent is difficult to remove if smeared on a masonry surface.

Mortar Type and Mix

Mortars for repointing projects, especially those involving historic buildings, typically are custom mixed in order to ensure the proper physical and visual qualities. These materials can be combined in varying proportions to create a mortar with the desired performance and durability. The actual specification of a particular mortar type should take into consideration all of the factors affecting the life of the building including: current site conditions, present condition of the masonry, function of the new mortar, degree of weather exposure, and skill of the mason.



Here, a hammer and chisel are being correctly used to prepare a joint for repointing. Photo: John P. Speweik.

Thus, no two repointing projects are exactly the same. Modern materials specified for use in repointing mortar should conform to specifications of the American Society for Testing and Materials (ASTM) or comparable federal specifications, and the resulting mortar should conform to ASTM C 270, Mortar for Unit Masonry.

Specifying the proportions for the repointing mortar for a specific job is not as difficult as it might seem. Five mortar types, each with a corresponding recommended mix, have been established by ASTM to distinguish high strength mortar from soft flexible mortars. The ASTM designated them in decreasing order of approximate general strength as Type M (2,500 psi), Type S (1,800 psi), Type N (750 psi), Type O (350 psi) and Type K (75 psi). (The letters identifying the types are from the words MASON WORK using every other letter.) Type K has the highest lime content of the mixes that contain portland cement, although it is seldom used today, except for some historic preservation projects. The designation "L" in the accompanying chart identifies a straight lime and sand mix. Specifying the appropriate ASTM mortar by proportion of ingredients, will ensure the desired physical properties. Unless specified otherwise, measurements or proportions for mortar mixes are always given in the following order: cement-lime-sand. Thus, a Type K mix, for example, would be referred to

as 1-3-10, or 1 part cement to 3 parts lime to 10 parts sand. Other requirements to create the desired visual qualities should be included in the specifications.

The strength of a mortar can vary. If mixed with higher amounts of portland cement, a harder mortar is obtained. The more lime that is added, the softer and more plastic the mortar becomes, increasing its workability. A mortar strong in compressive strength might be desirable for a hard stone (such as granite) pier holding up a bridge deck, whereas a softer, more permeable lime mortar would be preferable for a historic wall of soft brick. Masonry deterioration caused by salt deposition results when the mortar is less permeable than the masonry unit. A strong mortar is still more permeable than hard, dense stone. However, in a wall constructed of soft bricks where the masonry unit itself has a relatively high permeability or vapor transmission rate, a soft, high lime mortar is necessary to retain sufficient permeability.

Budgeting and Scheduling

Repointing is both expensive and time consuming due to the extent of handwork and special materials required. It is preferable to repoint only those areas that require work rather than an entire wall, as is often specified. But, if 25 to 50 per cent or more of a wall needs to be repointed, repointing the entire wall may be more cost effective than spot repointing.

Total repointing may also be more sensible when access is difficult, requiring the erection of expensive scaffolding (unless the majority of the mortar is sound and unlikely to require replacement in the foreseeable future). Each project requires judgement based on a variety of factors. Recognizing this at the outset will help to prevent many jobs from becoming prohibitively expensive.

In scheduling, seasonal aspects need to be considered first. Generally speaking, wall temperatures between 40 and 95 degrees F (8 and 38 degrees C) will prevent freezing or excessive evaporation of the water in the mortar. Ideally, repointing should be done in shade, away from strong sunlight in order to slow the drying process, especially during hot weather. If necessary, shade can be provided for large-scale projects with appropriate modifications to scaffolding.



When repairing this stone wall, the mason matched the raised profile of the original tuckpointing. Photo: NPS files.

The relationship of repointing to other work proposed on the building must also be recognized. For example, if paint removal or cleaning is anticipated, and if the mortar joints are basically sound and need only selective repointing, it is generally better to postpone repointing until after completion of these activities. However, if the mortar has eroded badly, allowing moisture to penetrate deeply into the wall, repointing should be accomplished before cleaning. Related work, such as structural or roof repairs, should be scheduled so that they do not interfere with repointing and so that all work can take maximum advantage of erected scaffolding.

Building managers also must recognize the difficulties that a repointing project can create.



A mechanical grinder improperly used to cut out the horizontal joint and incompatible repointing have seriously damaged the 19th century brick. Photo: NPS files.

The process is time consuming, and scaffolding may need to remain in place for an extended period of time. The joint preparation process can be quite noisy and can generate large quantities of dust which must be controlled, especially at air intakes to protect human health, and also where it might damage operating machinery. Entrances may be blocked from time to time making access difficult for both building tenants and visitors. Clearly, building managers will need to coordinate the repointing work with other events at the site.

Contractor Selection

The ideal way to select a contractor is to ask knowledgeable owners of recently repointed historic buildings for recommendations. Qualified contractors then can provide lists of other repointing projects for inspection. More commonly, however, the contractor for a repointing project is selected through a competitive bidding process over which the client or consultant has only limited control. In this situation it is important to ensure that the specifications stipulate that masons must have a minimum of five years' experience with repointing historic masonry buildings to be eligible to bid on the project. Contracts are awarded to the lowest responsible bidder, and bidders who have performed poorly on other projects usually can be eliminated from consideration on this basis, even if they have the lowest prices.

The contract documents should call for unit prices as well as a base bid. Unit pricing forces the contractor to determine in advance what the cost addition or reduction will be for work which varies from the scope of the base bid. If, for example, the contractor has fifty linear feet less of stone repointing than indicated on the contract documents but thirty linear feet more of brick repointing, it will be easy to determine the final price for the work. Note that each type of work--brick repointing, stone repointing, or similar items--will have its own unit price. The unit price also should reflect quantities; one linear foot of pointing in five different spots will be more expensive than five contiguous linear feet.

Execution of the Work

Test Panels. These panels are prepared by the contractor using the same techniques that will be used on the remainder of the project. Several panel locations--preferably not on the front or other highly visible location of the building--may be necessary to include all types of masonry, joint styles, mortar colors, and other problems likely to be encountered on the job.

If cleaning tests, for example, are also to be undertaken, they should be carried out in the same location. Usually a 3 foot by 3 foot area is sufficient for brickwork, while a somewhat larger area may be required for stonework. These panels establish an acceptable standard of work and serve as a benchmark for evaluating and accepting subsequent work on the building.

Joint Preparation. Old mortar should be removed to a minimum depth of 2 to 2-1/2 times the width of the joint to ensure an adequate bond and to prevent mortar "popouts." For most brick joints, this will require removal of the mortar to a depth of approximately 1/2 to 1 inch; for stone masonry with wide joints, mortar may need to be removed to a depth of several inches. Any loose or disintegrated mortar beyond this minimum depth also should be removed.

Although some damage may be inevitable, careful joint preparation can help limit damage to masonry units. The traditional manner of removing old mortar is through the use of hand chisels and mash hammers. Though labor-intensive, in most instances this method poses the least threat for damage to historic masonry units and produces the best final product.

The most common method of removing mortar, however, is through the use of power saws or grinders. The use of power tools by unskilled masons can be disastrous for historic masonry, particularly soft brick. Using power saws on walls with thin joints, such as most brick walls, almost always will result in damage to the masonry units by breaking the edges and by overcutting on the head, or vertical joints.

However, small pneumatically-powered chisels generally can be used safely and effectively to remove mortar on historic buildings as long as the masons maintain appropriate control over the equipment. Under certain circumstances, thin diamond-bladed grinders may be used to cut out *horizontal* joints only on hard portland cement mortar common to most early-20th century masonry buildings. Usually, automatic tools most



Unskilled repointing has negatively impacted the character of this late-19th century building. Photo: NPS files.

successfully remove old mortar without damaging the masonry units when they are used in combination with hand tools in preparation for repointing. Where horizontal joints are uniform and fairly wide, it may be possible to use a power masonry saw to assist the removal of mortar, such as by cutting along the middle of the joint; final mortar removal from the sides of the joints still should be done with a hand chisel and hammer. Caulking cutters with diamond blades can sometimes be used successfully to cut out joints without damaging the masonry. Caulking cutters are slow; they do not rotate, but vibrate at very high speeds, thus minimizing the possibility of damage to masonry units. Although mechanical tools may be safely used in limited circumstances to cut out horizontal joints in preparation for repointing, they should never be used on vertical joints because of the danger of slipping and cutting into the brick above or below the vertical joint. Using power tools to remove mortar without damaging the surrounding masonry units also necessitates highly skilled masons experienced in working on historic masonry buildings. Contractors should demonstrate proficiency with power tools before their use is approved.

Using any of these power tools may also be more acceptable on hard stone, such as quartzite or granite, than on terra cotta with its glass-like glaze, or on soft brick or stone. The test panel should determine the acceptability of power tools. If power tools are to be permitted, the contractor should establish a quality control program to account for worker fatigue and similar variables.

Mortar should be removed cleanly from the masonry units, leaving square corners at the back of the cut. Before filling, the joints should be rinsed with a jet of water to remove all loose particles and dust. At the time of filling, the joints should be damp, but with no standing water present. For masonry walls--limestone, sandstone and common brick--that are extremely absorbent, it is recommended that a continual mist of water be applied for a few hours before repointing begins.

Mortar Preparation. Mortar components should be measured and mixed carefully to assure the uniformity of visual and physical characteristics. Dry ingredients are measured by volume and thoroughly mixed before the addition of any water. Sand must be added in a damp, loose condition to avoid over sanding. Repointing mortar is typically pre-hydrated by adding water so it will just hold together, thus allowing it to stand for a period of time before the final water is added. Half the water should be added, followed by mixing for approximately 5 minutes. The remaining water should then be added in small portions until a mortar of the desired consistency is reached. The total volume of water necessary may vary from batch to batch, depending on weather conditions. It is important to keep the water to a minimum for two reasons: first, a drier mortar is cleaner to work with, and it can be compacted tightly into the joints; second, with no excess water to evaporate, the mortar cures without shrinkage cracks. Mortar should be used within approximately 30 minutes of final mixing, and "retempering," or adding more water, should not be permitted.

Using Lime Putty to Make Mortar. Mortar made with lime putty and sand, sometimes referred to as roughage or course stuff, should be measured by volume, and may require slightly different proportions from those used with hydrated lime. No additional water is usually needed to achieve a workable consistency because enough water is already contained in the putty. Sand is proportioned first, followed by the lime putty, then mixed for five minutes or until all the sand is thoroughly coated with the lime putty. But mixing, in the familiar sense of turning over with a hoe, sometimes may not be sufficient if the best possible performance is to be obtained from a lime putty mortar. Although the old practice of chopping, beating and ramming the mortar has largely been forgotten, recent field work has confirmed that lime putty and sand rammed and beaten with a wooden mallet or ax handle, interspersed by chopping with a hoe, can significantly improve workability and performance. The intensity of this action increases the overall lime/sand contact and removes any surplus water by compacting the other ingredients. It may also be advantageous for larger projects to use a mortar pan mill for mixing. Mortar pan mills which have a long tradition in Europe produce a superior lime putty mortar not attainable with today's modern paddle and drum type mixers.

For larger repointing projects the lime putty and sand can be mixed together ahead of time and stored indefinitely, on or off site, which eliminates the need for piles of sand on the job site. This mixture, which resembles damp brown sugar, must be protected from the air in sealed containers with a wet piece of burlap over the top or sealed in a large plastic bag to prevent evaporation and premature carbonation. The lime putty and sand mixture can be recombined into a workable plastic state months later with no additional water.

If portland cement is specified in a lime putty and sand mortar--Type O (1:2:9) or Type K (1:3:11)--the portland cement should first be mixed into a slurry paste before adding it to the lime putty and sand. Not only will this ensure that the portland cement is evenly distributed throughout the mixture, but if dry portland cement is added to wet ingredients it tends to "ball up," jeopardizing dispersion. (Usually water must be added to the lime putty and sand anyway once the portland cement is introduced.) Any color pigments should be added at this stage and mixed for a full five minutes. The mortar should be used within 30 minutes to 1½ hours and it should not be retempered. Once portland cement has been added the mortar can no longer be stored.

Filling the Joint. Where existing mortar has been removed to a depth of greater than 1 inch, these deeper areas should be filled first, compacting the new mortar in several layers. The back of the entire joint should be filled successively by applying approximately 1/4 inch of mortar, packing it well into the back corners. This

application may extend along the wall for several feet. As soon as the mortar has reached thumb-print hardness, another 1/4 inch layer of mortar--approximately the same thickness--may be applied. Several layers will be needed to fill the joint flush with the outer surface of the masonry. It is important to allow each layer time to harden before the next layer is applied; most of the mortar shrinkage occurs during the hardening process and layering thus minimizes overall shrinkage.

When the final layer of mortar is thumb-print hard, the joint should be tooled to match the historic joint. Proper timing of the tooling is important for uniform color and appearance. If tooled when too soft, the color will be lighter than expected, and hairline cracks may occur; if tooled when too hard, there may be dark streaks called "tool burning," and good closure of the mortar against the masonry units will not be achieved.

If the old bricks or stones have worn, rounded edges, it is best to recess the final mortar slightly from the face of the masonry. This treatment will help avoid a joint which is visually wider than the actual joint; it also will avoid creation of a large, thin featheredge which is easily damaged, thus admitting water. After tooling, excess mortar can be removed from the edge of the joint by brushing with a natural bristle or nylon brush. Metal bristle brushes should never be used on historic masonry.

Curing Conditions. The preliminary hardening of high-lime content mortars--those mortars that contain more lime by volume than portland cement, i.e., Type O (1:2:9), Type K (1:3:11), and straight lime/sand, Type "L" (0:1:3)--takes place fairly rapidly as water in the mix is lost to the porous surface of the masonry and through evaporation. A high lime mortar (especially Type "L") left to dry out too rapidly can result in chalking, poor adhesion, and poor durability. Periodic wetting of the repointed area after the mortar joints are thumb-print hard and have been finish tooled may significantly accelerate the carbonation process. When feasible, misting using a hand sprayer with a fine nozzle can be simple to do for a day or two after repointing. Local conditions will dictate the frequency of wetting, but initially it may be as often as every hour and gradually reduced to every three or four hours. Walls should be covered with burlap for the first three days after repointing. (Plastic may be used, but it should be tented out and not placed directly against the wall.) This helps keep the walls damp and protects them from direct sunlight. Once carbonation of the lime has begun, it will continue for many years and the lime will gain strength as it reverts back to calcium carbonate within the wall.

Aging the Mortar. Even with the best efforts at matching the existing mortar color, texture, and materials, there will usually be a visible difference between the old and new work, partly because the new mortar has been matched to the unweathered portions of the historic mortar. Another reason for a slight mismatch may be that the sand is more exposed in old mortar due to the slight erosion of the lime or cement. Although spot repointing is generally preferable and some color difference should be acceptable, if the difference between old and new mortar is too extreme, it may be advisable in some instances to repoint an entire area of a wall, or an entire feature such as a bay, to minimize the difference between the old and the new mortar. If the mortars have been properly matched, usually the best way to deal with surface color differences is to let the mortars age naturally. Other treatments to overcome these differences, including cleaning the non-repointed areas or staining the new mortar, should be carefully tested prior to implementation.



This 18th century pediment and surrounding wall exhibit distinctively different mortar joints. Photo: NPS files.

Staining the new mortar to achieve a better color match is generally not recommended, but it may be appropriate in some instances. Although staining may provide an initial match, the old and new mortars may weather at different rates, leading to visual differences after a few seasons. In addition, the mixtures used to stain the mortar may be harmful to the masonry; for example, they may introduce salts into the masonry which can lead to efflorescence.

Cleaning the Repointed Masonry. If repointing work is carefully executed, there will be little need for cleaning other than to remove the small amount of mortar from the edge of the joint following tooling. This can be done with a stiff natural bristle or nylon brush after the mortar has dried, but before it is initially set (1-2 hours). Mortar that has hardened can usually be removed with a wooden paddle or, if necessary, a chisel.

Further cleaning is best accomplished with plain water and natural bristle or nylon brushes. If chemicals must be used, they should be selected with extreme caution. Improper cleaning can lead to deterioration of the masonry units, deterioration of the mortar, mortar smear, and efflorescence. New mortar joints are especially susceptible to damage because they do not become fully cured for several months. Chemical cleaners, particularly acids, should never be used on dry masonry. The masonry should always be completely soaked once with water before chemicals are applied. After cleaning, the walls should be flushed again with plain water to remove all traces of the chemicals.

Several precautions should be taken if a freshly repointed masonry wall is to be cleaned. First, the mortar should be fully hardened before cleaning. Thirty days is usually sufficient, depending on weather and exposure; as mentioned previously, the mortar will continue to cure even after it has hardened. Test panels should be prepared to evaluate the effects of different cleaning methods. Generally, on newly repointed masonry walls, only very low pressure (100 psi) water washing supplemented by stiff natural bristle or nylon brushes should be used, except on glazed or polished surfaces, where only soft cloths should be used.**

New construction "bloom" or efflorescence occasionally appears within the first few months of repointing and usually disappears through the normal process of weathering. If the efflorescence is not removed by natural processes, the safest way to remove it is by dry brushing with stiff natural or nylon bristle brushes followed by wet brushing. Hydrochloric (muriatic) acid, is generally ineffective, and it should not be used to remove efflorescence. It may liberate additional salts, which, in turn, can lead to more efflorescence.

Surface Grouting is sometimes suggested as an alternative to repointing brick buildings, in particular. This process involves the application of a thin coat of cement-based grout to the mortar joints and the mortar/brick interface. To be effective, the grout must extend slightly onto the face of the masonry units, thus widening the joint visually. The change in the joint appearance can alter the historic character of the structure to an unacceptable degree. In addition, although masking of the bricks is intended to keep the grout off the remainder of the face of the bricks, some level of residue, called "veiling," will inevitably remain. Surface grouting cannot substitute for the more extensive work of repointing, and it is not a recommended treatment for historic masonry.

***Additional information on masonry cleaning is presented in Preservation Briefs 1: Assessing Cleaning and Water-Repellent Treatments for Historic Masonry Buildings, Robert C. Mack, FAIA, and Anne Grimmer, Washington, D.C.: Technical Preservation Services, National Park Service, U.S. Department of the Interior, 2000; and Keeping it Clean: Removing Exterior Dirt, Paint, Stains & Graffiti from Historic Masonry Buildings, Anne E. Grimmer, Washington, D.C.: Technical Preservation Services, National Park Service, U.S. Department of the Interior, 1988.*

Visually Examining the Mortar and the Masonry Units

A simple *in situ* comparison will help determine the hardness and condition of the mortar and the masonry units. Begin by scraping the mortar with a screwdriver, and gradually tapping harder with a cold chisel and mason's hammer. Masonry units can be tested in the same way beginning, even more gently, by scraping with a fingernail. This relative analysis which is derived from the 10-point hardness scale used to describe minerals, provides a good starting point for selection of an appropriate mortar. It is described more fully in "The Russack System for Brick & Mortar Description" referenced in **Selected Reading** at the end of this Brief.

Mortar samples should be chosen carefully, and picked from a variety of locations on the building to find unweathered mortar, if possible. Portions of the building may have been repointed in the past while other areas may be subject to conditions causing unusual deterioration. There may be several colors of mortar dating from different construction periods or sand used from different sources during the initial construction. Any of these situations can give false readings to the visual or physical characteristics required for the new mortar. Variations should be noted which may require developing more than one mix.

1) Remove with a chisel and hammer three or four unweathered samples of the mortar to be matched from several locations on the building. (Set the largest sample aside--this will be used later for comparison with the repointing mortar). Removing a full representation of samples will allow selection of a "mean" or average mortar sample.

2) Mash the remaining samples with a wooden mallet, or hammer if necessary, until they are separated into their constituent parts. There should be a good handful of the material.

3) Examine the powdered portion--the lime and/or cement matrix of the mortar. Most particularly, note the color. There is a tendency to think of historic mortars as having white binders, but grey portland cement was available by the last quarter of the 19th century, and traditional limes were also sometimes grey. Thus, in some instances, the natural color of the historic binder may be grey, rather than white. The mortar may also have been tinted to create a colored mortar, and this color should be identified at this point.

4) Carefully blow away the powdery material (the lime and/or cement matrix which bound the mortar together).

5) With a low power (10 power) magnifying glass, examine the remaining sand and other materials such as

lumps of lime or shell.

6) Note and record the wide range of color as well as the varying sizes of the individual grains of sand, impurities, or other materials.

Other Factors to Consider

Color. Regardless of the color of the binder or colored additives, the sand is the primary material that gives mortar its color. A surprising variety of colors of sand may be found in a single sample of historic mortar, and the different sizes of the grains of sand or other materials, such as incompletely ground lime or cement, play an important role in the texture of the repointing mortar. Therefore, when specifying sand for repointing mortar, it may be necessary to obtain sand from several sources and to combine or screen them in order to approximate the range of sand colors and grain sizes in the historic mortar sample.

Pointing Style. Close examination of the historic masonry wall and the techniques used in the original construction will assist in maintaining the visual qualities of the building. Pointing styles and the methods of producing them should be examined. It is important to look at both the horizontal and the vertical joints to determine the order in which they were tooled and whether they were the same style. Some late-19th and early-20th century buildings, for example, have horizontal joints that were raked back while the vertical joints were finished flush and stained to match the bricks, thus creating the illusion of horizontal bands. Pointing styles may also differ from one facade to another; front walls often received greater attention to mortar detailing than side and rear walls. **Tuckpointing** is not true repointing but the application of a raised joint or lime putty joint on top of flush mortar joints. **Penciling** is a purely decorative, painted surface treatment over a mortar joint, often in a contrasting color.

Masonry Units. The masonry units should also be examined so that any replacement units will match the historic masonry. Within a wall there may be a wide range of colors, textures, and sizes, particularly with hand-made brick or rough-cut, locally-quarried stone. Replacement units should blend in with the full range of masonry units rather than a single brick or stone.

Matching Color and Texture of the Repointing Mortar

New mortar should match the unweathered interior portions of the historic mortar. The simplest way to check the match is to make a small sample of the proposed mix and allow it to cure at a temperature of approximately 70 degrees F for about a week, or it can be baked in an oven to speed up the curing; this sample is then broken open and the surface is compared with the surface of the largest "saved" sample of historic mortar.

If a proper color match cannot be achieved through the use of natural sand or colored aggregates like crushed marble or brick dust, it may be necessary to use a modern mortar pigment.

During the early stages of the project, it should be determined how closely the new mortar should match the historic mortar. Will "quite close" be sufficient, or is "exactly" expected? The specifications should state this clearly so that the contractor has a reasonable idea how much time and expense will be required to develop an acceptable match.

The same judgment will be necessary in matching replacement terra cotta, stone or brick. If there is a known source for replacements, this should be included in the specifications. If a source cannot be determined prior to the bidding process, the specifications should include an estimated price for the replacement materials with the final price based on the actual cost to the contractor.

Mortar Types (Measured by volume)			
Designation	Cement	Hydrated Lime or Lime Putty	Sand
M	1	1/4	3 - 3 3/4
S	1	1/2	4 - 4 1/2
N	1	1	5 - 6
O	1	2	8 - 9
K	1	3	10 - 12
"L"	0	1	2 1/4 - 3

Suggested Mortar Types for Different Exposures			
Masonry Material	Exposure		
	Sheltered	Moderate	Severe
Very durable: granite, hard-cored brick, etc.	O	N	S
Moderately durable: limestone, durable stone, molded brick	K	O	N
Minimally durable: soft hand-made brick	"L"	K	O

Summary

For the Owner/Administrator. The owner or administrator of a historic building should remember that repointing is likely to be a lengthy and expensive process. First, there must be adequate time for evaluation of the building and investigation into the cause of problems. Then, there will be time needed for preparation of the contract documents. The work itself is precise, time-consuming and noisy, and scaffolding may cover the face of the building for some time. Therefore, the owner must carefully plan the work to avoid problems. Schedules for both repointing and other activities will thus require careful coordination to avoid unanticipated conflicts. The owner must avoid the tendency to rush the work or cut corners if the historic building is to retain its visual integrity and the job is to be durable.

For the Architect/Consultant. Because the primary role of the consultant is to ensure the life of the building, a knowledge of historic construction techniques and the special problems found in older buildings is essential. The consultant must assist the owner in planning for logistical problems relating to research and construction. It is the consultant's responsibility to determine the cause of the mortar deterioration and ensure that it is corrected before the masonry is repointed. The consultant must also be prepared to spend more time in project inspections than is customary in modern construction.

For the Masons. Successful repointing depends on the masons themselves. Experienced masons understand the special requirements for work on historic buildings and the added time and expense they require. The entire masonry crew must be willing and able to perform the work in conformance with the specifications, even when the specifications may not be in conformance with standard practice. At the same time, the masons should not hesitate to question the specifications if it appears that the work specified would damage the building.

Conclusion

A good repointing job is meant to last, at least 30 years, and preferably 50- 100 years. Shortcuts and poor craftsmanship result not only in diminishing the historic character of a building, but also in a job that looks bad, and will require future repointing sooner than if the work had been done correctly. The mortar joint in a historic masonry building has often been called a wall's "first line of defense." Good repointing practices guarantee the long life of the mortar joint, the wall, and the historic structure. Although careful maintenance will help preserve the freshly repointed mortar joints, it is important to remember that mortar joints are intended to be sacrificial and will probably require repointing some time in the future. Nevertheless, if the historic mortar joints proved durable for many years, then careful repointing should have an equally long life, ultimately contributing to the preservation of the entire building.

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Useful Addresses

Brick Institute of America
11490 Commerce Park Drive
Reston, VA 22091

National Lime Association
200 N. Glebe Road, Suite 800
Arlington, VA 22203

Portland Cement Association
5420 Old Orchard Road
Skokie, IL 60077

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Home page logo: Soft mortar for repointing. Photo: John P. Speweik.

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[Questions](#)

18 Preservation Briefs

Technical Preservation Services
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Rehabilitating Interiors in Historic Buildings Identifying and Preserving Character-Defining Elements

H. Ward Jandl

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A NOTE TO OUR USERS: The web versions of the **Preservation Briefs** differ somewhat from the printed versions. Many illustrations are new, captions are simplified, illustrations are typically in color rather than black and white, and some complex charts have been omitted.

A floor plan, the arrangement of spaces, and features and applied finishes may be individually or collectively important in defining the historic character of the building and the purpose for which it was constructed. Thus, their identification, retention, protection, and repair should be given prime consideration in every preservation project. Caution should be exercised in developing plans that would radically change character-defining spaces or that would obscure, damage or destroy interior features or finishes.



The interiors of mills and industrial buildings are frequently open, unadorned spaces with exposed structural elements. While these spaces can serve many new uses, the floor to ceiling height and exposed truss system are character-defining features that should be retained in rehabilitation. Photo: NPS files.

While the exterior of a building may be its most prominent visible aspect, or its "public face," its interior can be even more important in conveying the building's history and development over time. Rehabilitation within the context of the Secretary of the Interior's Standards for Rehabilitation calls for the preservation of exterior and interior portions or features of the building that are significant to its historic, architectural and cultural values.

Interior components worthy of preservation may include the building's plan (sequence of spaces and circulation patterns), the building's spaces (rooms and volumes), individual architectural features, and the various finishes and materials that make up the walls, floors, and ceilings. A theater auditorium or sequences of rooms such as double parlors or a lobby leading to a stairway that ascends to a mezzanine may comprise a building's most important spaces.

Individual rooms may contain notable features such as plaster cornices, millwork, parquet wood floors, and hardware. Paints, wall coverings, and finishing techniques such as

graining, may provide color, texture, and patterns which add to a building's unique character.

Virtually all rehabilitations of historic buildings involve some degree of interior alteration, even if the buildings are to be used for their original purpose. Interior rehabilitation proposals may range from preservation of existing features and spaces to total reconfigurations. In some cases, depending on the building, restoration may be warranted to preserve historic character adequately; in other cases, extensive alterations may be perfectly acceptable.

This Preservation Brief has been developed to assist building owners and architects in identifying and evaluating those elements of a building's interior that contribute to its historic character and in planning for the preservation of those elements in the process of rehabilitation. The guidance applies to all building types and styles, from 18th century churches to 20th century office buildings. The Brief does not attempt to provide specific advice on preservation techniques and treatments, given the vast range of buildings, but rather suggests general preservation approaches to guide construction work.



Not only are the features of this early 20th century interior worthy of preservation, the planned sequence of spaces impart a grandeur that is characteristic of high style residences of the period. Photo: Jack E. Boucher, HABS collection.

Identifying and Evaluating the Importance of Interior Elements Prior to Rehabilitation

Before determining what uses might be appropriate and before drawing up plans, a thorough professional assessment should be undertaken to identify those tangible architectural components that, prior to rehabilitation, convey the building's sense of time and place--that is, its "historic character." Such an assessment, accomplished by walking through and taking account of each element that makes up the interior, can help ensure that a truly compatible use for the building, one that requires minimal alteration to the building, is selected.

Researching The Building's History

A review of the building's history will reveal why and when the building achieved significance or how it contributes to the significance of the district. This information helps to evaluate whether a particular rehabilitation treatment will be appropriate to the building and whether it will preserve those tangible components of the building that convey its significance for association with specific events or persons along with its architectural importance. In this regard, National Register files may prove useful in explaining why and for what period of time the building is significant. In some cases research may show that later alterations are significant to the building; in other cases, the alterations may be without historical or architectural merit, and may be removed in the rehabilitation.

Identifying Interior Elements

Interiors of buildings can be seen as a series of primary and secondary spaces. The goal of the assessment is to identify which elements contribute to the building's character and which do not. Sometimes it will be the sequence and flow of spaces, and not just the individual rooms themselves, that contribute to the building's character. This is particularly evident in buildings that have strong central axes or those that are consciously



Many institutional buildings possess distinctive spaces or floor plans that are important in conveying the significance of the property. This grand hall, which occupies the entire floor of the building, could not be subdivided without destroying the integrity of the space. Photo: NPS files.

asymmetrical in design. In other cases, it may be the size or shape of the space that is distinctive.

The importance of some interiors may not be readily apparent based on a visual inspection; sometimes rooms that do not appear to be architecturally distinguished are associated with important persons and events that occurred within the building.

Primary spaces, are found in all buildings, both monumental and modest. Examples may include foyers, corridors, elevator lobbies, assembly rooms, stairhalls, and parlors. Often they are the places in the building that the public uses and sees; sometimes they are the most architecturally detailed spaces in the building, carefully proportioned and finished

with costly materials. They may be functionally and architecturally related to the building's external appearance. In a simpler building, a primary space may be distinguishable only by its location, size, proportions, or use. Primary spaces are always important to the character of the building and should be preserved.

Secondary spaces are generally more utilitarian in appearance and size than primary spaces. They may include areas and rooms that service the building, such as bathrooms, and kitchens. Examples of secondary spaces in a commercial or office structure may include storerooms, service corridors, and in some cases, the offices themselves. Secondary spaces tend to be of less importance to the building and may accept greater change in the course of work without compromising the building's historic character.

Spaces are often designed to interrelate both visually and functionally. The sequence of spaces, such as vestibule-hall-parlor or foyer-lobby-stair-auditorium or stairhall-corridor-classroom, can define and express the building's historic function and unique character. Important sequences of spaces should be identified and retained in the rehabilitation project.



The interior of this 19th worker's house has not been properly maintained, but it may be as important historically as a richly ornamented interior. Its wide baseboards, flat window trim, and four-panel door should be carefully preserved in a rehabilitation project. Photo: NPS files.

Floor plans may also be distinctive and characteristic of a style of architecture or a region. Examples include Greek Revival and shotgun houses. Floor plans may also reflect social, educational, and medical theories of the period. Many 19th century psychiatric institutions, for example, had plans based on the ideas of Thomas Kirkbride, a Philadelphia doctor who authored a book on asylum design.

In addition to evaluating the relative importance of the various spaces, the assessment should identify architectural features and finishes that are part of the interior's history and character. Marble or wood wainscoting in corridors, elevator cabs, crown molding, baseboards, mantels, ceiling medallions, window and door trim, tile and parquet floors, and staircases are among those features that can be found in historic buildings. Architectural finishes of note may include grained woodwork, marbleized columns, and plastered walls. Those features that are characteristic of the building's style and period of construction should, again, be retained in the rehabilitation.

Features and finishes, even if machine-made and not exhibiting particularly fine craftsmanship, may be character defining; these would include pressed metal ceilings and millwork around windows and doors. The interior of a plain, simple detailed worker's house of the 19th century may be as important historically as a richly ornamented, high-style townhouse of the same period. Both resources, if equally intact, convey important information about the early inhabitants and deserve the same careful attention to detail in the preservation process.

The location and condition of the building's existing heating, plumbing, and electrical systems also need to be noted in the assessment. The visible features of historic systems--radiators, grilles, light fixtures, switchplates, bathtubs, etc.--can contribute to the overall character of the building, even if the systems themselves need upgrading.

Assessing Alterations and Deterioration

In assessing a building's interior, it is important to ascertain the extent of alteration and deterioration that may have taken place over the years; these factors help determine what degree of change is appropriate in the project. Close examination of existing fabric and original floorplans, where available, can reveal which alterations have been additive, such as new partitions inserted for functional or structural reasons and historic features covered up rather than destroyed. It can also reveal which have been subtractive, such as key walls removed and architectural features destroyed. If an interior has been modified by additive changes and if these changes have not acquired significance, it may be relatively easy to remove the alterations and return the interior to its historic appearance. If an interior has been greatly altered through subtractive changes, there may be more latitude in making further alterations in the process of rehabilitation because the integrity of the interior has been compromised. At the same time, if the interior had been exceptionally significant, and solid documentation on its historic condition is available, reconstruction of the missing features may be the preferred option.



This corridor has glazed walls, oak trim, and marble wainscotting, typical of those found in the late 19th and early 20th century office buildings. Corridors such as this, displaying simple detailing, should be a priority in rehabilitation projects involving commercial buildings. Photo: NPS files.

It is always a recommended practice to photograph interior spaces and features thoroughly prior to rehabilitation. Measured floor plans showing the existing conditions are extremely useful. This documentation is invaluable in drawing up rehabilitation plans and specifications and in assessing the impact of changes to the property for historic preservation certification purposes.

Drawing Up Plans and Executing Work

If the historic building is to be rehabilitated, it is critical that the new use not require substantial alteration of distinctive spaces or removal of character-defining architectural features or finishes. If an interior loses the physical vestiges of its past as well as its historic function, the sense of time and place associated both with the building and the district in which it is located is lost.

The recommended approaches that follow address common problems associated with the rehabilitation of historic interiors and have been adapted from the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings. Adherence to these suggestions can help ensure that character-defining interior

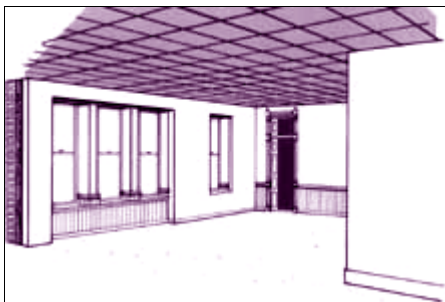
elements are preserved in the process of rehabilitation. The checklist covers a range of situations and is not intended to be all-inclusive. Readers are strongly encouraged to review the full set of guidelines before undertaking any rehabilitation project.

Recommended Approaches for Rehabilitating Historic Interiors

1. Retain and preserve floor plans and interior spaces that are important in defining the overall historic character of the building. This includes the size, configuration, proportion, and relationship of rooms and corridors; the relationship of features to spaces; and the spaces themselves such as lobbies, reception halls, entrance halls, double parlors, theaters, auditoriums, and important industrial or commercial use spaces. Put service functions required by the building's new use, such as bathrooms, mechanical equipment, and office machines, in secondary spaces.

2. Avoid subdividing spaces that are characteristic of a building type or style or that are directly associated with specific persons or patterns of events. Space may be subdivided both vertically through the insertion of new partitions or horizontally through insertion of new floors or mezzanines. The insertion of new additional floors should be considered only when they will not damage or destroy the structural system or obscure, damage, or destroy character-defining spaces, features, or finishes. If rooms have already been subdivided through an earlier insensitive renovation, consider removing the partitions and restoring the room to its original proportions and size.

3. Avoid making new cuts in floors and ceilings where such cuts would change character-defining spaces and the historic configuration of such spaces. Inserting of a new atrium or a lightwell is appropriate only in very limited situations where the existing interiors are not historically or architecturally distinguished.



Furring out exterior walls to add insulation and suspending new ceilings to hide ductwork can change a room's proportions and cause interior features to appear fragmented. The interior character of this school classroom that was converted to apartment use has been destroyed. Drawing: Neal A. Vogel

4. Avoid installing dropped ceilings below ornamental ceilings or in rooms where high ceilings are part of the building's character. In addition to obscuring or destroying significant details, such treatments will also change the space's proportions. If dropped ceilings are installed in buildings that lack character-defining spaces, such as mills and factories, they should be well set back from the windows so they are not visible from the exterior.

5. Retain and preserve interior features and finishes that are important in defining the overall historic character of the building. This might include columns, doors, cornices, baseboards, fireplaces and mantels, paneling, light fixtures, elevator cabs, hardware, and flooring; and wallpaper, plaster, paint, and finishes such as stenciling,

marbleizing, and graining; and other decorative materials that accent interior features and provide color, texture, and patterning to walls, floors, and ceilings.

6. Retain stairs in their historic configuration and to location. If a second means of egress is required, consider constructing new stairs in secondary spaces. The application of fire-retardant coatings, such as intumescent paints; the installation of fire suppression systems, such as sprinklers; and the construction of glass enclosures can in many cases permit retention of stairs and other character-defining features.

7. Retain and preserve visible features of early mechanical systems that are important in defining the overall historic character of the building, such as radiators, vents, fans, grilles, plumbing fixtures, switchplates, and lights. If new heating, air conditioning, lighting and plumbing systems are installed, they should be done in a way that does not destroy character-defining spaces, features and finishes. Ducts, pipes, and wiring should be installed as inconspicuously as possible: in secondary spaces, in the attic or basement if possible, or in closets.

8. Avoid "furring out" perimeter walls for insulation purposes. This requires unnecessary removal of window trim and can change a room's proportions. Consider alternative means of improving thermal performance, such as installing insulation in attics and basements and adding storm windows.

9. Avoid removing paint and plaster from traditionally finished surfaces, to expose masonry and wood. Conversely, avoid painting previously unpainted millwork. Repairing deteriorated plasterwork is encouraged. If the plaster is too deteriorated to save, and the walls and ceilings are not highly ornamented, gypsum board may be an acceptable replacement material. The use of paint colors appropriate to the period of the building's construction is encouraged.



Plaster has been removed from perimeter walls, leaving brick exposed. The plaster should have been retained and repaired, as necessary. Photo: NPS files.

10. Avoid using destructive methods--propane and butane torches or sandblasting--to remove paint or other coatings from historic features. Avoid harsh cleaning agents that can change the appearance of wood.

Meeting Building, Life Safety and Fire Codes

Buildings undergoing rehabilitation must comply with existing building, life safety and fire codes. The application of codes to specific projects varies from building to building, and town to town. Code requirements may make some reuse proposals impractical; in other cases, only minor changes may be needed to bring the project into compliance. In some situations, it may be possible to obtain a code variance to preserve distinctive interior features. (It should be noted that the Secretary's Standards for Rehabilitation take precedence over other regulations and codes in determining whether a rehabilitation project qualifies for Federal tax benefits.) A thorough understanding of the applicable regulations and close coordination with code officials, building inspectors, and fire marshals can prevent the alteration of significant historic interiors.

Sources of Assistance

Rehabilitation and restoration work should be undertaken by professionals who have an established reputation in the field.

Given the wide range of interior work items, from ornamental plaster repair to marble cleaning and the application of graining, it is possible that a number of specialists and subcontractors will need to be brought in to bring the project to completion. State Historic Preservation Officers and local preservation organizations may be a useful source of information in this regard. Good sources of information on appropriate preservation techniques for specific interior features and finishes include the Bulletin of the Association for Preservation Technology and The Old-House Journal; other useful publications are listed in the bibliography.

Protecting Interior Elements During Rehabilitation

Architectural features and finishes to be preserved in the process of rehabilitation should be clearly marked on plans and at the site. This step, along with careful supervision of the interior demolition work and protection against arson and vandalism, can prevent the unintended destruction of architectural elements that contribute to the building's historic character.

Protective coverings should be installed around architectural features and finishes to avoid damage in the course of construction work and to protect workers. Staircases and floors, in particular, are subjected to dirt and heavy wear, and the risk exists of incurring costly or irreparable damage. In most cases, the best, and least costly, preservation approach is to design and construct a protective system that enables stairs and floors to be used yet protects them from damage. Other architectural features such as mantels, doors, wainscoting, and decorative finishes may be protected by using heavy canvas or plastic sheets.

Summary



After rehabilitation, this severely deteriorated space was returned to its original elegance. Plaster was repaired and repainted; scagliola columns were restored to match marble; and missing decorative metalwork was re-installed in front of the windows. Photo: Carol M. Highsmith.

In many cases, the interior of a historic building is as important as its exterior. The careful identification and evaluation of interior architectural elements, after undertaking research on the building's history and use, is critically important before changes to the building are contemplated. Only after this evaluation should new uses be decided and plans be drawn up. The best rehabilitation is one that preserves and protects those rooms, sequences of spaces, features and finishes that define and shape the overall historic character of the building.

Selected Reading List

There are few books written exclusively on preserving historic interiors, and most of these tend to focus on residential interiors. Articles on the subject appear regularly in *The Old-House Journal*, the *Bulletin of the Association for Preservation Technology*, and *Historic Preservation Magazine*.

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Washington, D.C. October, 1988

Home page logo: Detail of carving on interior shutter. Hammond-Harwood House, Annapolis, Maryland. Photo: NPS files.

This publication has been prepared pursuant to the National Historic Preservation Act of 1966, as amended, which directs the Secretary of the Interior to develop and make available information concerning historic properties. Technical Preservation Services (TPS), Heritage Preservation Services Division, National Park Service prepares standards, guidelines, and other educational materials on responsible historic preservation treatments for a broad public.

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Painting Historic Interiors

Sara B. Chase

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A NOTE TO OUR USERS: The web versions of the **Preservation Briefs** differ somewhat from the printed versions. Many illustrations are new, captions are simplified, illustrations are typically in color rather than black and white, and some complex charts have been omitted.

The paint Americans used in the past is undeniably part of a technological and commercial record. But beyond that, the colors we have chosen and continue to select for our interior living and working spaces--bright and exuberant, purposefully somber, or a combination of hues--reflect our nation's cultural influences and our individual and collective spirit. Paint color is a simple, direct expression of the time, and of taste, values, and mood. To consider paint only as a protective coating is to misunderstand its meaning as an important aspect of America's heritage.



Researching the interior paint history is the key to a successful preservation or restoration project. The decorative detailing can be appreciated in this Puerto Rico Theater primarily because of appropriate paint color and paint placement. Photo: Max Toro.

This Brief is about historic interior paints and choosing new paints for historic interiors if repainting is necessary or desirable. It addresses a variety of materials and features: plaster walls and ceilings; wooden doors, molding, and trim; and metal items such as radiators and railings. It provides background information about some of the types of paint which were used in the past, discusses the more common causes and effects of interior paint failure, and explains the principal factors guiding decisions about repainting, including what level of paint investigation may be appropriate. Careful thought should be given to each interior paint project, depending on the history of the

building and its painted surfaces. Treatments may range from protecting extant decorative surfaces, to ordering custommade paint that replicates the original paint color, to using today's paint straight off the shelf and out of the can.

Finally, stripping old paints or applying new oil/alkyd paints poses serious health and safety concerns; the State Historic Preservation Officer should be contacted for current legal and technical information on removal, disposal, and health and safety precautions.

Constituents of Historic Paint: Pigment, Binder, and Vehicle

Paint is a dispersion of small solid particles, usually crystalline, in a liquid medium. Applied to a surface, this liquid has the special quality of becoming a solid, protective film when it dries. Paint also enhances the appearance of surfaces. A late Victorian writer observed that the coming of a painter to a house was cause for celebration. Indeed, these statements not only indicate the chemical and physical complexity of paint, but also its emotional impact.

Pigment. Pigment made the paint opaque, thus preventing deterioration of the substrate caused by ultraviolet light, and added color, thus making the paint attractive. White lead, a whitish corrosion product of lead, was most often used to provide opacity. The white pigment in a colored paint is often called the "hiding" pigment. In addition to preventing the sun's damaging rays from hitting the surface of the substrate, the white lead also helped prevent the growth of mold and mildew. Not until early in the 20th century was a successful substitute, titanium dioxide (TiO₂), patented, and even then, it did not come into prevalent use by itself until the mid-20th century (earlier in the century, titanium oxide and white lead were often mixed). Zinc oxide was used briefly as a hiding pigment after 1850.

Early tinting pigments for house paints consisted of the earth pigments--ochres, siennas, umbers made from iron-oxide containing clay--and a few synthesized colorants such as Prussian blue, or mercuric sulfide (crimson). From the early 1800s on more pigments were developed and used to offer a wider and brighter variety of hues.

Binder. The most common binder in interior paints was, and still is, oil. Chalk was sometimes added to waterbased paints to help bind the pigment particles together. Other common binders included hide glue and gelatin.

Vehicle. The fluid component was termed the vehicle, or medium, because it carried the pigment. Historically, vehicles included turpentine in oil paints and water in waterbased paints, but other vehicles were sometimes used, such as milk in casein paints.

Oil-Based and Water-Based Paints

The two major types of paint are termed oil-based and water-based. For oilbased paints, linseed oil was frequently chosen because it is a drying oil. When thinned with an organic solvent such as turpentine for easier spreading, its drying speed was enhanced. To make the drying even faster, drying agents such as cobalt compounds were frequently added. Because the addition of driers was most successfully done in hot or boiling oil, boiled linseed oil was preferable. The drying rate of linseed oil paints was relatively rapid at first, for several days immediately after application, and paint soon felt dry to the touch; it is important to remember, however, that linseed oil paint continues to dry--or more precisely, to crosslink--over decades and thus continues to a point of brittleness as the paint ages. Strong and durable with a surface sheen, oil-based paints were mainly used for



There were numerous companies producing white lead in the United States by mid-19th century. Shown is one manufacturer's flyer. Photo: NPS files.

wood trim and metal.

Whitewashes and distemper paints differed from oil paints in appearance primarily because the vehicle was water. Waterbased paints were always flat, having no gloss of their own. Because the paint film dried to the touch as soon as the water evaporated, driers were not needed. Waterbase paints were fairly strong, with the pigments well bound as in hide glue distempers, but they did not hold up to abrasion. Wood trim, therefore, was rarely painted with these types of paint historically, though interior plaster surfaces were frequently coated with whitewash and calcimine. Distemper paints were commonly used for decorative work.

Recent Changes to Paint Constituents. Until the mid-20th century, almost all paints used in America could be divided according to the type of binder each had. Chemists sought to improve paints, especially when the two world wars made traditional paint components scarce and expensive. Modern paints are far more complex chemically and physically than early paints. More ingredients have been added to the simple threepart system of pigment, binder, and vehicle. Fillers or extenders such as clay and chalk were put in to make oil paints flow better and to make them cheaper as well. Mildewcides and fungicides were prevalent and popular until their environmental hazards were seen to outweigh their benefits. New formulations which retard the growth of the mildew and fungi are being used. As noted, lead was eliminated after 1950. Most recently, volatile organic solvents in oil paint and thinners have been categorized as environmentally hazardous.

A major difference in modern paints is the change in binder from the use of natural boiled linseed oil to an alkyd oil which is generally derived from soybean or safflower oil. Use of synthetic resins, such as acrylics and epoxies, has become prevalent in paint manufacture in the last 30 years or so. Acrylic resin emulsions in latex paints, with water thinners, have also become common.

Types of Historic Paints

Historic paints were often made with what was available, rather than adhering to strict formulas. Recipes for successful formulas can be found in historic documents, such as newspapers, illustrating the combinations of ingredients which could be used to produce a paint.

Oil-based paints: Linseed oil, a volatile thinner such as turpentine; a hiding pigment (usually white lead) and coloring pigments.

Enamels: natural resin varnish was added to oil-based paint to provide a hard, more glossy surface.

Glaze: a translucent layer applied to protect the paint and to impart a more uniform gloss surface. Usually made from linseed oil with natural resin varnish added. Some glazes have small quantities of tinting pigments such as verdigris or Prussian blue; some had no pigments added.

Water-based paints: Water, pigment, and a binder, such as hide glue, other natural glues, or gums. Usually used on interior plaster surfaces.

Whitewash: often used on interior plaster surfaces in utilitarian spaces and, at times, used on interior beams; consisted of water, slaked lime, salt, and a variety of other materials. Occasionally a pigment (usually an ochre or other earth pigment) was added to provide tint or color.

Distemper: used for interior applications, were made from water, glues (one or more different natural glues, gelatine, and gums) with whiting as the basic white pigment to which other tinting pigments were added.

Calcimine, or kalsomine: often used on interior surfaces and is another common name for distemper.

Tempera: paint prepared with pigment, egg yolk or white and water; used almost exclusively for decorative treatments.

Gouache: a waterbased paint made of whiting, pigment, water, and gum arabic as the binder; used almost exclusively for decorative treatments.

Milk-based paint:

Casein: also called milk paint, was made with hydrated (slaked) lime, pigment, and milk. Most often oil was added, making a strong emulsion paint. Various recipes call for a large variety of additives to increase durability. Casein paints were also used for exterior surfaces.

Pre-1875 Paints

Production and Appearance. How were paints made prior to the widespread use of factory-made paint after 1875? How did they look? The answers to these questions are provided more to underscore the differences between early paints and today's paints than for practical purposes. Duplicating the composition and appearance of historic paints, including the unevenness of color, the irregularity of surface texture, the depth provided by a glaze top coat, and the directional lines of application, can be extremely challenging to a contemporary painter who is using modern materials.



The Boston Stone (1737), a surviving relic of early paint production, was used for pigment grinding in the shop of Thomas Child of Boston, a London-trained painter and stainer. Photo: Courtesy, SPNEA.

The pigments used in early paints were coarsely and unevenly ground, and they were dispersed in the paint medium by hand; thus, there is a subtle unevenness of color across the surface of many pre-1875 paints. The dry pigments had to be ground in oil to form a paste and the paste had to be successively thinned with more oil and turpentine before the paint was ready for application. The thickness of the oil medium produced the shiny surface desired in the 18th century. In combination with the cylindrical (or round) shaped brushes with wood handles and boar bristles, it also produced a paint film with a surface texture of brush strokes.

Geographical Variation. The early churches and missions built by the French in Canada and the Spanish in the southwestern United States often had painted decoration on whitewashed plaster walls, done with early waterbased paints. By the mid-17th century oil paint was applied to wood trim in many New England houses, and whitewash was applied to walls. These two types of paint, one capable of highly decorative effects such as imitating marble or expensive wood and the other cheap to make and relatively easy to apply, brightened and enhanced American interiors. In cities such as Boston, Philadelphia, New York, and later, Washington, painters and stainers who were trained guildsmen from England practiced their craft and instructed apprentices. The painter's palette of colors included black and white and grays, buffs and tans, ochre yellows and iron oxide reds, and greens (from copper compounds) as well as Prussian blue. That such painting was valued and that a glossy appearance on wood was important are substantiated by evidence of clear and tinted glazes which may be found by microscopic examination.

Brush Marks. Early paints did not dry out to a flat level surface. Leveling, in fact, was a

property of paint that was much sought after later, but until well into the 19th century, oil paints and whitewashes showed the signs of brush marks. Application therefore was a matter of stroking the brush in the right direction for the best appearance. The rule of thumb was to draw the brush in its final strokes in the direction of the grain of the wood. Raisedfield paneling, then, required that the painter first cover the surface with paint and afterward draw the brush carefully along the vertical areas from bottom to top and along the top and bottom bevels of the panel horizontally from one side to the other.

In the 19th and early 20th centuries, for very fine finishes, several coats were applied with each coat being rubbed down with rotten stone or pumice after drying. A four to five coat application was typical; however nine coats were not uncommon at the end of the century for finishes in some of the grand mansions. Generally, they were given a final glaze finish. Though expensive, this type of finish would last for decades and give a rich, smooth appearance.

Color. Color matching is complicated by the fact that all early paints were made by hand. Each batch of paint, made by painters using books of paint "recipes" or using their own experience and instincts, might well have slight variations in color--a little darker or lighter, a little bluer and so on. The earliest known book of paint formulations by an American painter is the 1812 guide by Hezekiah Reynolds. It gives instructions for the relative quantities of tinting pigments to be added to a base, but even with proportions held constant, the amount of mixing, or dispersion, varied from workman to workman and resulted in color variations.

Knowing all of the facts about early paints can aid in microscopic paint study. For example, finding very finely and evenly ground pigments, equally dispersed throughout the ground or vehicle, is an immediate clue that the paint was not made by hand but, rather, in a factory.

By the first decades of the 19th century more synthetic pigments were available--chrome yellow, chrome green, and shades of red. Discoveries of light, bright, clear colors in the plaster and mosaic decoration of dwellings at Pompeii caught the fancy of many Americans and came together with the technology of paint to make for a new palette of choice, with more delicacy than many of the somewhat greyeddown colors of the 18th century. Of course, the blues which could be produced with Prussian blue in the 18th and 19th centuries were originally often strong in hue. That pigment--as were a number of others--is fugitive, that is, it faded fairly quickly and thus softened in appearance. It should be remembered that high style houses from the mid-17th to late 19th centuries often had wallpaper rather than paint on the walls of the important rooms and hallways.

Glossy/Flat. Another paint innovation of the early 19th century was the use of flatter oil paints achieved by adding more turpentine to the oil, which thus both thinned and flatted them. By the 1830s the velvety look of flat paint was popular.

Wherever decorative plaster was present, as it frequently was during the height of the Federal period, distemper paints were the coating of choice. Being both thin and readily removable with hot water, they permitted the delicate plaster moldings and elaborate floral or botanical elements to be protected and tinted but not obscured by the buildup of many paint layers. (The use of waterbased paints on ceilings continued through the Victorian years for the same reasons.)

Unfortunately, flat paints attract dirt, which is less likely to adhere to high gloss surfaces, and are thus harder to wash. Victorians tended to use high gloss clear (or tinted) finishes such as varnish or shellac on much of their wood trim and to use flat or oil paints on walls and ceilings.

Decorative Painting. In interiors, paint could be used creatively and imaginatively, most often to decorate rather than to protect. Decorative forms included stencilling, graining and marbleizing, and trompe l'oeil. Stencilling. Stencilled designs on walls were often used

in the first half of the 19th century in place of wallpaper. Old Sturbridge Village, in Massachusetts, has paintings showing the interiors of a (c. 1815-1820) farmhouse which has both stencilled walls--imitating wallpaper--and painted floors or oiled and painted floor cloths, imitating fine carpets. By 1850 and for the next 60 years thereafter, stencilled and freehandpainted decoration for walls and ceilings became a high as well as a humble art. Owen Jones' *Grammar of Ornament*, published in 1859, provided the source for painted decoration from Portland to Peoria, Savannah to San Francisco.



The task of preserving or restoring decorative work, such as the complex stencilling shown here, should only be undertaken by professionals who have specialized training. Photo: Alexis Elza.



Historic doors may have graining patterns or clear finishes under one or several coats of plain paint, such as these restored 18th and 19th century doors. Photo: Jack E. Boucher, HABS, NPS.

Graining and marbleizing. If floors, walls, and ceilings were decorated by paint in a variety of styles, the wood and stone trim of rooms was not omitted. The use of faux bois, that is, painting a plain or common wood such as pine to look like mahogany or some finer wood, or faux marbre, painting a wood or plaster surface to look like marble--realistically or fantastically--was common in larger homes of the 18th century. By the early 19th century, both stylized graining and marbleizing adorned the simple rural or small town houses as well. Often baseboards and stair risers were marbled as were fireplace surrounds. Plain slate was painted to look like fine Italian marble. In many simple buildings, and, later, in the Victorian period, many prominent buildings such as town halls and churches, the wood trim was given a realistic graining to resemble quarter sawn oak, walnut, or a host of other exotic woods.

Trompe L'oeil. Churches, courthouses, and state capitols frequently received yet another remarkable use of paint: trompe l'oeil decoration. Applied by skilled artists and artisans, painted designs--most often using distemper paints or oils--could replicate threedimensional architectural detailing such as ornate molded plaster moldings, medallions, panels, and more.

Factory-Made Paints after 1875

An enormous growth of the paint industry began in the 1860s, stimulated by the invention of a suitable marketing container--the paint can. The first factory-made paints in cans consisted of more finely ground pigments in an oil base; after purchase, additional oil was added to the contents of the can to make up the paint. Such paints saved the time of handgrinding pigments, and were discussed at length by John Masury in his numerous books. After 1875, factory-made paints were available at a reasonable cost and, as a result, greater numbers of people painted and decorated more of their buildings, and more frequently. The new commercial market created by ready-mixed paint became the cornerstone of our modern paint industry.

20th Century Paints

By the early decades of the 20th century, popular taste turned away from exuberant colors and decoration. Until the late 1920s both the Colonial Revival and Arts and Crafts styles tended toward more subdued colors and, in the case of Colonial Revival, a more limited palette. The use of *faux* finishes, however, continued. Residential architecture often featured stencilling, such as painted borders above wainscoting or at ceiling and wall edges to imitate decorative wallpaper. Institutional buildings in both cities and small towns used

wood graining on metalclad doors, door and window frames, and staircases, and had stencilled ceilings as well. Many high style public buildings of the 1920s had painted ceilings which imitated the Spanish and Italian late medieval and Renaissance styles.

Although stenciling, gilding, and faux finishes can be found, they did not express the modern style of the time. On the other hand, glaze treatments were often used in the early 20th century to "antique" walls and trim that had been painted with neutral colors, especially in Spanish Colonial Revival and Mission architecture. The glazes were applied by ragging, sponging, and other techniques which gave an interesting and uneven surface appearance. Colored plasters were sometimes used, and air brushing employed to give a craftsman-like appearance to walls, trim, and ceilings. During the same period, Williamsburg paint colors were produced and sold to people who wanted their houses to have a "historic Georgian look." Churches, country clubs, and many private buildings adopted the Williamsburg style from the late '20s onward.



The Art Deco style lobby foyer of the Paramount Theater in Sacramento, California (1931) features painted plaster columns and cornices which have been finished in gold and silver leaf. Photo: Gabriel Moulin Studios.

Often decorated with simple molded plaster designs of the Art Deco and Art Moderne styles, interiors of the 1930s and 1940s were frequently accented with metal flake paints in a full range of metallic colors, from copper to bronze. And enamels, deep but subdued hues, became popular. Paint technology had progressed and varying degrees of gloss were also available, including the mid-range enamels, variously called satin, semigloss, or eggshell. In contrast to Victorian paint treatments, this period was characterized by simplicity. To some extent, the Bauhaus aesthetic influenced taste in the 1950s; interior paints were frequently chosen from a palette limited to a few "earth" colors and a "nearly neutral" palette of off-whites and pale greys.

While the trend in colors and decorative treatments was defined by its simplicity, paint chemists were developing paints of increasing complexity. Experimentation had started early in the 20th century and accelerated greatly after World War II. Of greatest significance was the manufacture of the latex paints for consumer use. Synthetic resin emulsions carried in water offered advantages over the traditional oil paints, and even over the oil/alkyd paints: they did not yellow; they permitted water cleanup until dried; and they emitted no toxic or hazardous fumes from solvent evaporation.

Paint Investigation

Understanding each project's historic preservation goal and knowing what level of information needs to be collected to achieve that goal is an important responsibility of the purchaser of the service. Before someone is hired, the owner or manager needs to decide if a thorough investigation of painted surfaces is actually needed, and *how* to use the results when one is done.

Specialists with both training and field experience conduct paint investigations. These experts use sophisticated instruments and procedures such as field sampling, cross-section analysis, and fluorescent and chemical staining to learn about the components and behaviors of historic paints. In addition, they utilize written documentation, verbal research, and visual information about past painting in the building in conjunction with findings in the field.

Paint investigation can make several contributions to a project. A complete analysis of the paint layers on surfaces within a structure can tell a great deal about the sequence of

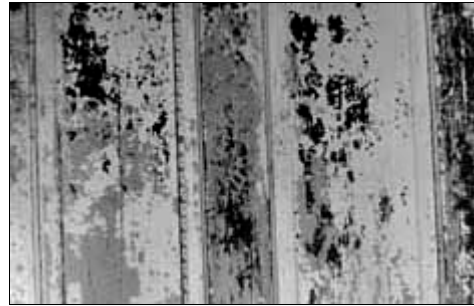


This conservator is shown collecting paint samples onsite. Then, in a laboratory, an ultra violet light microscope will be used to identify pigment and binding media. Photo: Courtesy, Matt Mosca.

alterations that have occurred within a building, as well as potentially providing ranges of dates for some of these changes. By establishing a full sequence of paint layers (termed a *chromochronology*), together with other research, alterations of various building spaces and features can be associated with specific paint layers. It is by establishing this association that the correct layer is identified; when the correct layer has been identified, the color may be matched.

In addition to its archeological value, paint analysis can determine the types and colors of paint on a given surface (identification of thin glazes, decorative paint schemes, binders

and pigments). Beyond color identification, then, paint analysis is also recommended to diagnose causes of paint failure. Knowing a paint binder can often explain causes as well as guide appropriate preservation or conservation treatments.



A dark layer can be seen beneath the flaking paint on these raised field panels. Depending on the project work goal and the period of the building's history being interpreted, any one of the paint layers could be duplicated in repainting. Photo: NPS files.

Owners and managers should identify all of these needs before deciding on the extent of analysis. For example, a complete paint investigation is usually recommended as part of an historic structure report. For buildings with little documentation, additions and alterations can often be identified, and possibly dated, through analysis. Often the use of such seemingly expensive techniques can save money in the long run when determining the history of building change.

It is possible to do some analysis on site; this is a much simpler process that can be undertaken for less cost than the complex laboratory procedures described above. However, the usefulness of onsite analysis is limited and the results will not be as precise as results from samples that are analyzed in a laboratory with a good microscope. Any shortcut approaches to paint analysis that do not follow scientific procedures are generally not worth the expense. In summary, if preservation and restoration treatments are being undertaken, a complete investigation is recommended; for a rehabilitation project, onsite analysis and color matching may provide an adequate palette.

Choosing a Treatment

Most projects involve repainting. It is the historic appearance of the interior and the visual impression that will be created by new paint treatments that must be considered before choosing a particular course of action. The type and colors of paint obviously depend on the type of building and the use and interpretation of its interior spaces. A consistent approach is best.

Preservation. When the treatment goal is preservation, a building's existing historic features and finishes are maintained and repaired, saving as much of the historic paint as possible. Sometimes, cleaning and washing of painted surfaces is all that is needed. Or a coating may be applied to protect important examples of history or art. If repainting is

required, the new paint is matched to existing paint colors using the safer, modern formulations. Recreating earlier surface colors and treatments is not an objective.



Interior spaces that are being rehabilitated for a new use can benefit from being repainted in historic period colors rather than a neutral off-white. Photo: NPS files.

Rehabilitation. In a typical rehabilitation, more latitude exists in choosing both the kind of new paint as well as color because the goal is the efficient reuse of interior spaces. Decisions about new paint often weigh factors such as economy and durability--use of a high quality standard paint from a local or national company and application by a qualified contractor. Color choices may be based on paint research reports prepared for interior rooms of comparable date and style. More often, though, current color values and taste are taken into account. Again, the safer paint formulations are used.

Interiors of institutional buildings, such as university buildings, city halls, libraries, and churches often contain rich decorative detailing. During rehabilitation, careful choices should be made to retain or restore selected portions of the decorative work as well as match some of the earlier colors to evoke the historic sense of time and place. At the least, it is important to use periodtypical paint color and paint placement.

Restoration. In a restoration project, the goal is to depict the property as it appeared during its period of greatest significance. This may or may not be the time of its original construction. For example, if a building dated from 1900 but historians deemed its significance to be the 1920s, the appropriate paint color match would be the 1920s layer, not the original 1900 layer.

Based on historical research, onsite collection of paint samples, and laboratory analysis, surface colors and treatments can be recreated to reflect the property at a particular period of time. It should be noted that scholarly findings may yield a color scheme that is not suited to the taste of the contemporary owner, but is nonetheless historically accurate. In restoration, personal taste in color is not at issue; the evidence should be strictly followed.

In the restoration process, colors are custom-matched by professionals to give an accurate representation. If an artist or artisan can be found, the historically replicated paint may be applied using techniques appropriate to the period of the restoration. Although custom paint manufacture is seldom undertaken, color and glazing are capable of being customized. In some projects, paint may be custom-made using linseed oil and, if building code variances allow it, white lead. For example, the repainting of a number of rooms at Mount Vernon demonstrates that it is possible to replicate historic paints and applications in all aspects; however, as noted, replication of historic paint formulation is not practical for the majority of projects.

Identifying Deteriorated and Damaged Paint Surfaces

Because painted surfaces are subject to abrasion, soiling, water damage, sunlight, and application of incompatible paints they generally need to be repainted or at least reglazed appropriately from time to time.

Abrasion. From the baseboards up to a level of about six feet off the floor, wood trim is constantly subjected to wear from being touched and inadvertently kicked, and from having furniture pushed against it. Chair rails were in fact intended to take the wear of having chairs pushed back against them instead of against the more delicate plaster wall or expensive wallpaper. Doors in particular, sometimes beautifully grained, receive extensive handling. Baseboards get scraped by various cleaning devices, and the lower rails of windows, as well as window seats, take abuse. The paint in all of these areas tends

to become abraded. Two things are important to bear in mind about areas of abraded paint. Samples taken to determine original paint colors and layer sequences will not be accurate except at undamaged edges. Also, dirt and oil or grease need to be removed before applying any new paint because new paint will not adhere to dirty, greasy surfaces.

Dirt. Soiling is another problem of interior paint. Fireplaces smoked; early coalfired furnaces put out oily black soot; gas lights and candles left dark smudges. Sometimes the dirt got deposited on plaster walls or ceilings in a way that makes the pattern of the lath behind the plaster quite clear. Another source of dirt was polluted outside air, from factories or other industries, infiltrating houses and other nearby buildings. Until smokestacks became very high, most air pollution was caused by nearby sources.

In paint investigation, dirt on the surface of paint layers; as seen under the microscope, can be very useful in suggesting the length of time a given paint layer remained exposed, and in distinguishing a finish layer from a prime or undercoat layer. This kind of soiling can happen on any painted surface in a room, but may be slightly heavier in the recesses of moldings and on upwardfacing horizontal edges. Using dirt as a sole measure, however, may be misleading if the surfaces have been cleaned. The fracture or bonding between paint layers is often used by professionals as a better means of indicating time differences between layers as well as indicating those layers that are part of a single decoration or painting.

Water. Water, the usual source of deterioration for many kinds of material, is also a prime cause of interior paint failure. As a liquid, it can come from roof leaks, from faulty plumbing or steam heating systems, or from firesuppression systems that have misfired. As a vapor, it may come from such human activities as breathing, showering, or cooking. Plaster walls sealed with unpigmented hideglue are notably susceptible to water damage because it forms a watersoluble layer between the plaster and the paint. This can cause the paint to lose adhesion when even small amounts of moisture come into contact with the watersoluble sealer.

Age/Sunlight. Finally, in historic interiors, especially where there is heavy paint buildup, paint can weaken and fail due to chemical or mechanical reasons. For example, the older linseed oil is, the more brittle it is. It also darkens when it is covered and gets no ultraviolet exposure. In rooms where there is more sunlight on one area than on others, the oil or even oil/alkyd paint will get discernibly darker in the less exposed areas in as short a time as six months. Painted over, the oil medium in older paints gets quite yellowbrown, thus changing the color of the paint. Prussian blue is one of the tinting pigments that is particularly vulnerable to fading.

Incompatible Paints. Understanding some basic differences in the strength of various paints helps to explain certain paint problems. Paints that dry to a stronger film are incompatible with those which are weaker. Acrylic latex paints are stronger than oil/alkyd paints. Oil or oil/alkyd paint is stronger than waterbased paint such as calcimine. When a stronger paint is applied over a weaker paint, it will tend to pull off any weaker paint which may have begun to lose its bond with its substrate. Thus, on many ceilings of older buildings where oil/alkyd paints have been applied over old calcimine, large strips of paint may be peeling.

Oil or varnish glazes over older paints become brittle with age, and can make removal of later paints rather easy. Sometimes it is possible to take advantage of this characteristic to reveal an earlier decorative treatment such as graining or marbleizing. Getting under the edge of the glaze with a scalpel blade can make the removal of later paints relatively simple, and relatively harmless to the fancier paint treatment. Sometimes, paints separate from each other simply due to poor surface preparation in the past or the hardening of the earlier surface paint. Use of alkaline paint strippers can cause paint to lose adhesion. When insufficiently neutralized, they leave salts in wood which cause oil or oil/alkyd paints to fail to adhere to the surface. If dirt or oily residues are not cleaned from the surfaces to be

painted, new paint will not remain well adhered.

Surface Preparation

First, it is important to note that the earlier, linseed oil-based paints were penetrating type paints, forming a bond by absorption into the substrate. Often these thin oil coatings were slightly tinted with an ironoxide pigment so coverage could be seen; the next coating applied would adhere to this first oil layer. Modern paints, on the other hand, are primarily bonding paints with little ability to penetrate a substrate. For this reason, surface preparation is extremely important for today's paints.

Before preparing the interior for repainting, all moisture penetration from failing roofs or gutters or from faulty plumbing or interior heating elements should be identified and corrected. A paint job is only as good as the preparation that goes before it. The surface to be painted, old or new, wood, plaster, masonry, or metal must be made sound and capable of taking the paint to be applied.

Scraping and Sanding. The first step in preparing interior wood and plaster surfaces which are coherent and sound is to remove any loose paint (see Paint Hazards sidebar). Careful hand scraping is always advisable for historic surfaces. Use of mechanical sanders usually leaves traces of the sander's edges, visible through the new paint film. Hand sanding is also necessary to feather the edges of the firmly adhering layers down to the bare areas so that shadow lines are avoided. Preparing previously painted interior masonry for new paint is basically similar to preparing plaster. Metals elements, such as radiators, valences, or firebacks are somewhat different. In order to get a sound paint job on metal items, the work is primarily that of sanding to remove any rust before repainting. If the existing paint is well adhered over the entire metal surface, then it may be necessary only to sand lightly to roughen the existing paint, thus providing some "tooth" for the primer and new paint layer. On wood, garnet sanding papers work well. Aluminum oxide and silicon carbide sandpapers are effective on other surfaces as well as wood; emery papers should be used on metals.

Paint Removal. When should surfaces be completely stripped? Obviously, new paint is wasted when applied on old paint which is loose, that is, extensively damaged and deteriorated. Sometimes paint on an architectural feature needs to be removed if it obscures delicate detailing. For the most part, however, if the surface is intact--and the presence of lead paint has been shown to present no health dangers to building occupants--the existing paint can be overpainted.

Well-adhered, intact paint layers (in at least one area of each room) should be covered with a sturdy protective tape, then painted over with the new paint and left in place to inform future research. The next owner may be interested in the building's past history, and methods of gleaning information from old paints grow more sophisticated all the time.

Heat/Scraping. Propane torches should never be used because they can damage historic wood features. Also, charred areas of wood will not hold the new paint. Use of a heat gun or heat plate may be relatively fast, but has both health and safety drawbacks. Heat oxidizes lead paint, causing poisonous fumes. And old walls may contain fine debris which acts like tinder and smolders when heated, bursting into flame hours after the stripping. (Heat methods are best limited to those interior elements that can be safely removed from the building for stripping and reinstalled). Finally, scraping to remove heatloosened paint may gouge and scar the wood or plaster substrate if not done carefully. Rotary wire brushes cut into wood and should be avoided altogether.

Chemical stripping. Removing paint from wood and plaster features can be done with either caustic strippers (potassium or sodium hydroxide) or solvent strippers (organic compounds such as methylene chloride, methanol, or toluol). Caustic strippers are fairly fast acting, but can weaken wood fibers if left on too long, causing them to raise and

separate. They also leave alkaline residues which must be neutralized by an acidic wash (usually white vinegar which contains 4% acetic acid). It is difficult to make the neutralizing 100% effective and, when it is not, chemical reactions between the alkaline residues and the new paint may cause the paint to lose adhesion.

Methylene chloride and other organic compounds are as effective as caustic strippers, but their fumes may be both flammable and toxic. While they may leave wood and plaster surfaces free from harmful residue, the newly cleaned surface must be washed down with mineral spirits or denatured alcohol before priming in order to remove additives, such as wax, that were put in the stripper to retard its drying. All hazard warnings on the labels of chemical strippers should be heeded.

Detergent or vinegar and water. Waterbased paints can usually be scrubbed off with hot water with a detergent added. Calcimine and whitewash are difficult to remove; because of the lime or whiting content (calcium carbonate), however, they can be broken down with acids. While strong acids may work quickly, they are very dangerous. Acetic acid in its most common form, vinegar, (4% acetic acid) is often used instead. In areas where any calcimine remains and is evident as chalk, the area can be coated with white shellac, which provides a stable surface for the new paint.

Air pressure. Air pressure of 200-500 psi is effective for flat surfaces if there is a weak substrate surface bond. A flat nozzle is inserted between the paint layer and substrate, and the air pressure simply lifts the loose paint up for easy removal. When used carefully, this method is fast and causes little damage.

Patching and Repair. Once the substrate and its surface are sound and clean, free from crumbling, loose material or dust, the next step is to undercut and fill any cracks in plaster surfaces. Plaster which has lost its key and is sagging should be reattached or replaced. Friable plaster and punky wood need to be consolidated. Wood surfaces should be made as smooth as they were historically so that the paint film will cover a relatively uniform surface. Rotted wood must be removed and new wood carefully spliced in. Finally, gypsum plaster finishes can be painted as soon as the water has evaporated; a lime putty coat or traditional finish plaster can be primed almost immediately after drying as well, using alkali-resistant primers such as acrylic latex.

Priming. The importance of a primer can hardly be overstated. It is the intermediary material between the immediate substrate, which may be an old paint layer or may be bare wood, plaster, or metal (rarely stone, as around a fireplace opening), and the fresh paint itself. The primer must be capable of being absorbed to some extent by the material underneath while being compatible and cohesive with the paint to be applied on top. Most paint manufacturers will provide explicit instructions about which primers are most compatible with their paints. Those instructions should be followed.

The question of a primer for latex paint continues to be debated. Traditionalists recommend that the primer between an old oil paint and a new latex paint be an oil primer, but the improvements to latex paint in recent years have led many experts to the conclusion that today's top grade latex primers are best for latex finish paints. If a latex primer is selected, the label on the can should specify clearly that it is one which can bond to an older oil or oil/alkyd paint.

The most important general rule to remember is that softer or weaker paints should always go over harder and stronger paints. For instance, because latex is stronger than oil, an oil or oil/alkyd paint can go over a well adhered latex, but the reverse will run the risk of failure. Using primer and finish paints by a single company is a good way to guarantee compatibility.

Choosing Modern Paint Types/Finish Coats

Most frequently today, the project goal is preservation or rehabilitation. Because of the impracticality of replicating historic paints, restoration is least often undertaken. Given current laws restricting the use of toxic ingredients, such as lead, solvents, and thinners, contemporary substitute paints using safer ingredients need to be used. Many paint companies make latex paints in colors that are close to historic colors as well as appropriate gloss levels, but contain no white lead and no hazardous volatile organic compounds.

Work on historic properties generally requires the services of a qualified paint contractor who has had at least five years of experience and who can list comparable jobs that a potential client can see. Then, too, getting a sample or a mockup of any special work may be advisable before the job starts. While less experienced workers may be acceptable for preparing and priming, it is wise to have the most experienced painters on the finish work.

Oil-based/alkyd paints. Today's version of oil paint has a binder that usually contains some linseed oil (read the paint can label), but also has one of the improved synthesized oils, frequently soybased, known as alkyds. They dry hard, have flexibility, and discolor far less than linseed oil. They can also be manufactured to dry with a high sheen, and can take enough tinting pigment to create even the very deep Victorian period colors. However, they all contain volatile organic compounds, and thus are forbidden by law in some parts of the United States. They are also less simple and more dangerous to use, as cleaning up involves mineral spirits.



Traditional water-based paint and artists' brushes are being used to reproduce historic finishes within a restoration project. Photo: Courtesy, Alexis Elza.

Acrylic waterborne paints (latex). Latex paints are synthetic resins carried in water. Before the paint dries or crosslinks, it can be cleaned up with water. Early in the history of latex paints, some contained styrene/butadiene resins. Now nearly all topgrade latex paints contain acrylic resins, which are superior. Also, until fairly recently, the latex paints, while offering great strength, quick drying, and water cleanup, had some disadvantages for jobs which needed to have an historic look. Today, there are latex product lines with better gloss characteristics and more historic colors from which to choose. In addition, latex paints often have excellent color retention with very little fading. Still, it is always a good idea to buy a quart and "test paint" the color chosen for the job on site before making a total commitment.

Calcimine/whitewash. Modern waterbased paints such as calcimine can be purchased today and have much the same appearance as the early ones. The same is true of modern whitewash, although today's whitewashes do not

leave the same ropy surface texture as the early ones.

Glazes. Glazes were often part of historic paint treatments. Traditionally oil and turpentine, sometimes with a scant amount of pigment, today's glazes can be formulated with a water base and are relatively simple to apply by brush. An experienced decorative painter should be consulted before deciding whether to use a glaze coat rather than a high-gloss enamel. The glaze is capable of providing protection as well as a more accurate historic appearance that includes a greater depth to the finish.

Epoxies/Urethane. These were not available until relatively recently and thus are not appropriate for replication of traditional finishes.

Applying Interior Paints

Because flat wall surfaces generally dominate an interior painting job, some flexibility in applicators is suggested below:

Brushes. Natural bristle brushes now have competition from synthetic brushes made of nylon or polyester which work well for applying either oil/alkyd or latex paints. Being harder than natural bristles, they tend to last longer. Since brushes come in a wide and very specific variety of types suited to different types of work, it is important to have a painter who will use the appropriate brush for the paint selected and for each portion of the job. One strong advantage of brushing paint on is that the paint is forced onto the surface and into all of its imperfections. Thus a good brushed-on paint job may last longer if the substrate is sound and the primer and finish coats are compatible and of top quality.

Rollers. There is no harm in using a roller, or even an airless sprayer, to apply a prime coat to a large flat area. Since all contemporary commercial paints dry with a smooth surface anyway, use of a roller or sprayer is acceptable for priming, and even for a first finish coat. However, to get paint well pushed into articulated surfaces and to add some texture to larger flat surfaces, a brush is best.

Types of Modern Paint

Oilbased/alkyd: Nonvolatile oils and resins, with thinners. (Alkyds are synthetic, gelatinous resins compounded from acids and alcohol.) Accept almost any type of coloring/hiding pigments. For use on interior wood and metal.

Acrylic waterborne paints (latex): Suspension of acrylic or polyvinyl resins in water, with other resins, plus hiding and coloring pigments and extenders. Dries by evaporation. Commercially produced acrylic or latex enamels are also available in a complete range of gloss levels which are produced with the addition of various acrylic polymers. Use on interior plaster especially.

Enamels: Modern alkyd paints are adjusted with the addition of synthetic varnishes to produce a complete range of gloss levels.

Metal finishes: Paints marketed for use on metals, can either be alkyd, latex, or epoxy based, or combinations. The primers used for metals are formulated with rust-inhibiting ingredients.

Special finishes: finishes such as urethane and epoxy-based paints, marketed for very high gloss surface treatments.

Finally, decorative paint work in an historic interior-- whether simple or highstyle--is well worth preserving or restoring, and when such fancy work is being undertaken, traditional tools should always be used. To simplify by using shortcut methods or rejecting painted decoration is indeed to dismiss or skew history as well as to lose the enjoyment of a true historic finish.

Summary

First, it is most important to understand the range of approaches and treatments and to make choices with as much knowledge of the original and subsequent historic paints as possible, using the ***Secretary of the Interior's Standards for the Treatment of Historic Properties*** as a framework.

A paint's patina of age expresses decades or centuries of endurance in the face of changing climate and conditions. Documenting the sequence of interior paint layers and protecting this information for future investigation should be an integral part of any historic preservation project.



When discovered, important examples of history, such as this pencilled Civil War graffiti, should be preserved. Photo: Kaye Ellen Simonson.

Except for the rare, scholarly restorations of historic interiors, most repainting jobs done today will employ modern paint formulations. Modern paints can recreate the appearance of historic colors, gloss and texture in varying degrees, but eliminate earlier toxic components such as white lead and volatile organic compounds.

CAUTION: Before Painting Know Paint Hazards and Take Action

Before undertaking any project involving paint removal, applicable State and Federal laws on lead paint abatement and disposal must be taken into

account and carefully followed. State and Federal requirements may affect options available to owners on both paint removal and repainting. These laws, as well as any requirements prohibiting volatile organic compounds (VOCs), should be requested from the State Historic Preservation Officer in each State.

Below is a summary of the health hazards that owners, managers, and workers need to be aware of before removing paint and repainting:

Lead and other heavy metal compounds. In virtually all paints made before 1950, the white or "hiding" pigment was a lead compound, or more rarely, zinc oxide. Work to remove lead paint such as scraping and dry sanding releases the lead--a highly damaging heavy metal--in dust. Lead dust then enters the human system through pores of the skin and through the lungs. The use of heat for stripping also creates toxic lead fumes which can be inhaled.

To mitigate the hazards of lead paint ingestion, inhalation, or contact, it is extremely important to prevent the dust from circulating by masking room openings and removing all curtains, carpeting, and upholstered furniture. Drop cloths and masking containing lead dust should be carefully enclosed in tight plastic bags before removal. Workers and others in the room should wear High Efficiency Particulate Air (HEPA) filters for lead dust (fume filters if heat stripping is being used), change clothing just outside the room leaving the work clothes inside, and avoid any contact between bare skin (hands) and the paint being removed. Workers should also not eat, drink, or smoke where lead dust is present. Finally, anyone involved in lead paint removal should undergo periodic blood testing. After work, ordinary vacuuming is not enough to remove lead dust; special HEPA vacuums are essential. The surfaces of the room must also be given a final wash with a solution of trisodium phosphate and water, changing the washing solution often and rinsing well.

In addition to lead, early oil paints also had cobalt or other heavy metal compounds in them to accelerate drying. A small amount of mercury is also included in some latex paints to help prevent mildew and mold formation.

Volatile organic compounds (VOCs). Organic paint strippers, such as methylene chloride, and oil/alkyd paints have VOCs as their solvent base. Inhaling these fumes can lead to respiratory and other illnesses, and to cancer. Especially in closed spaces (but in the outdoor environment as well) these compounds pollute the air and can damage health.

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Organizations

National Paint and Coatings Association

1500 Rhode Island Ave. N.W.
Washington, D.C. 20005

Painting and Decorating Contractors of America

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Home page logo: Restoration of decorative paint finishes. Photo: Sara B. Chase.

This publication has been prepared pursuant to the National Historic Preservation Act of 1966, as amended, which directs the Secretary of the Interior to develop and make available information concerning historic properties. Technical Preservation Services (TPS), Heritage Preservation Services Division, National Park Service prepares standards, guidelines, and other educational materials on responsible historic preservation treatments for a broad public.

[Questions](#)