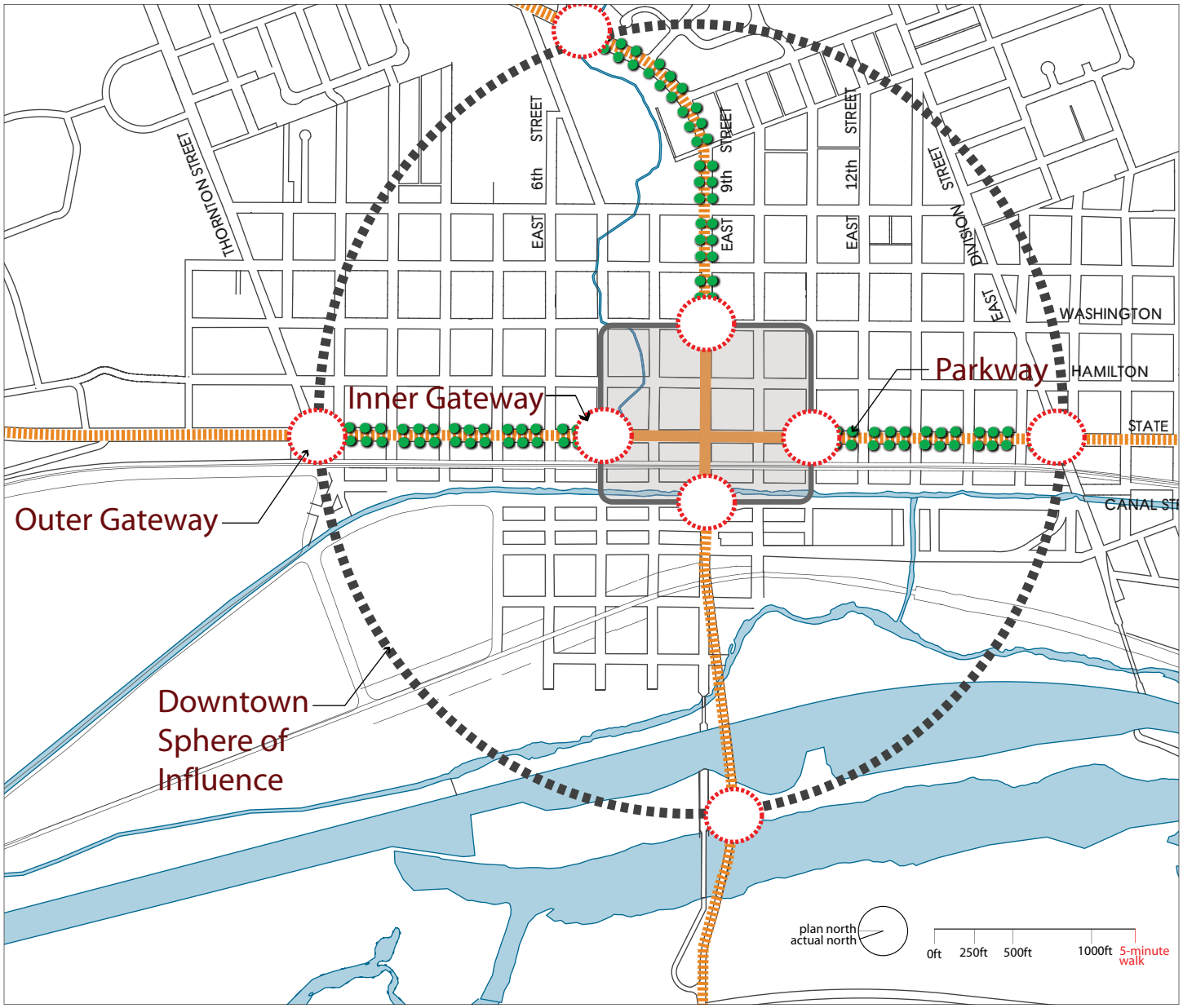
Section 2: Master Plan Design

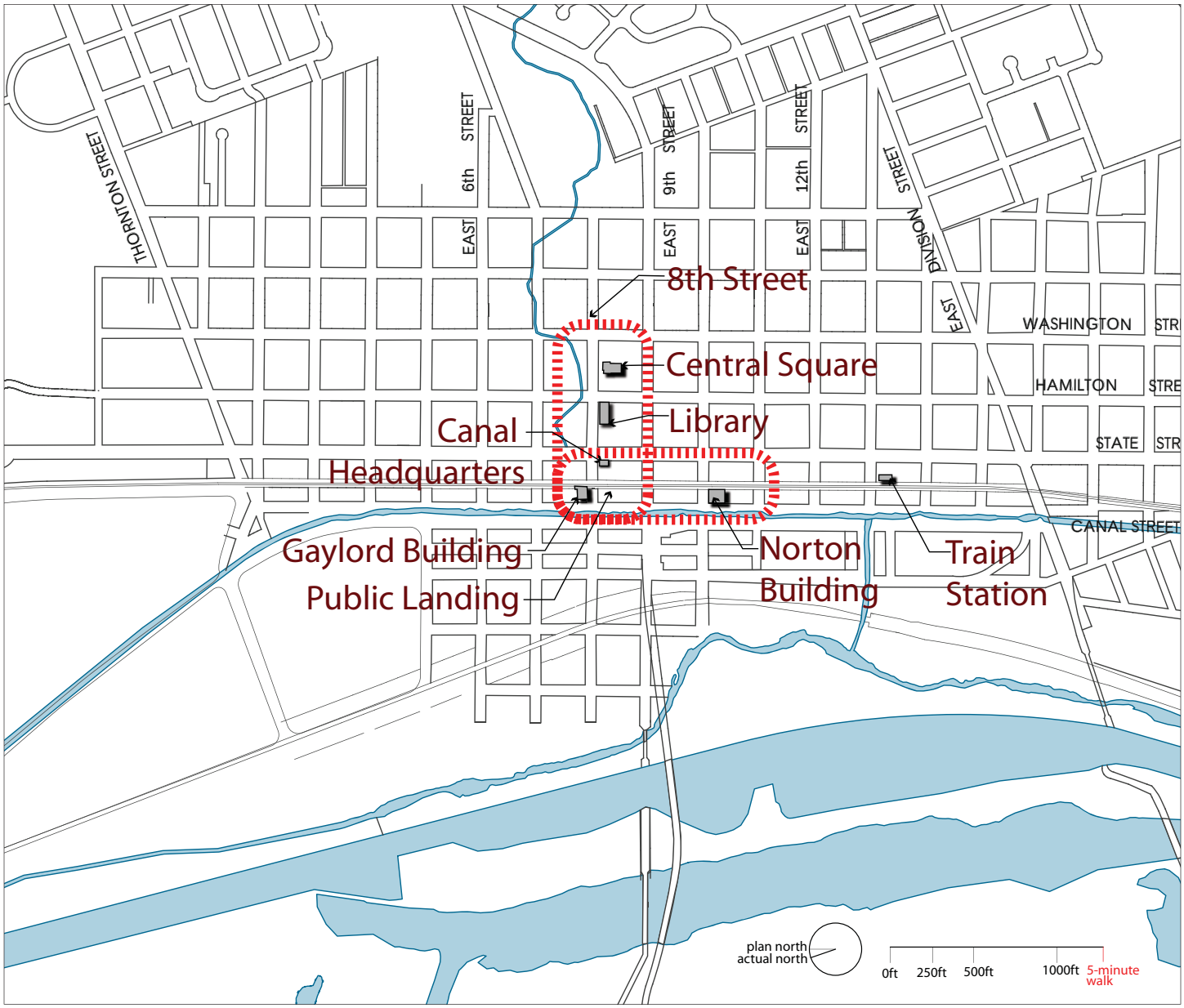
Gateways and Approaches



There are four major approaches into the project area. Inner and outer gateways establish the entry sequence. Outer gateways and tree-lined parkways create a formal procession into the Historic Core. Inner gateways announce entry into the Historic Core of the project site.

- Downtown sphere of influence includes downtown development districts and gateways.
- Parkways reinforce entry sequence.

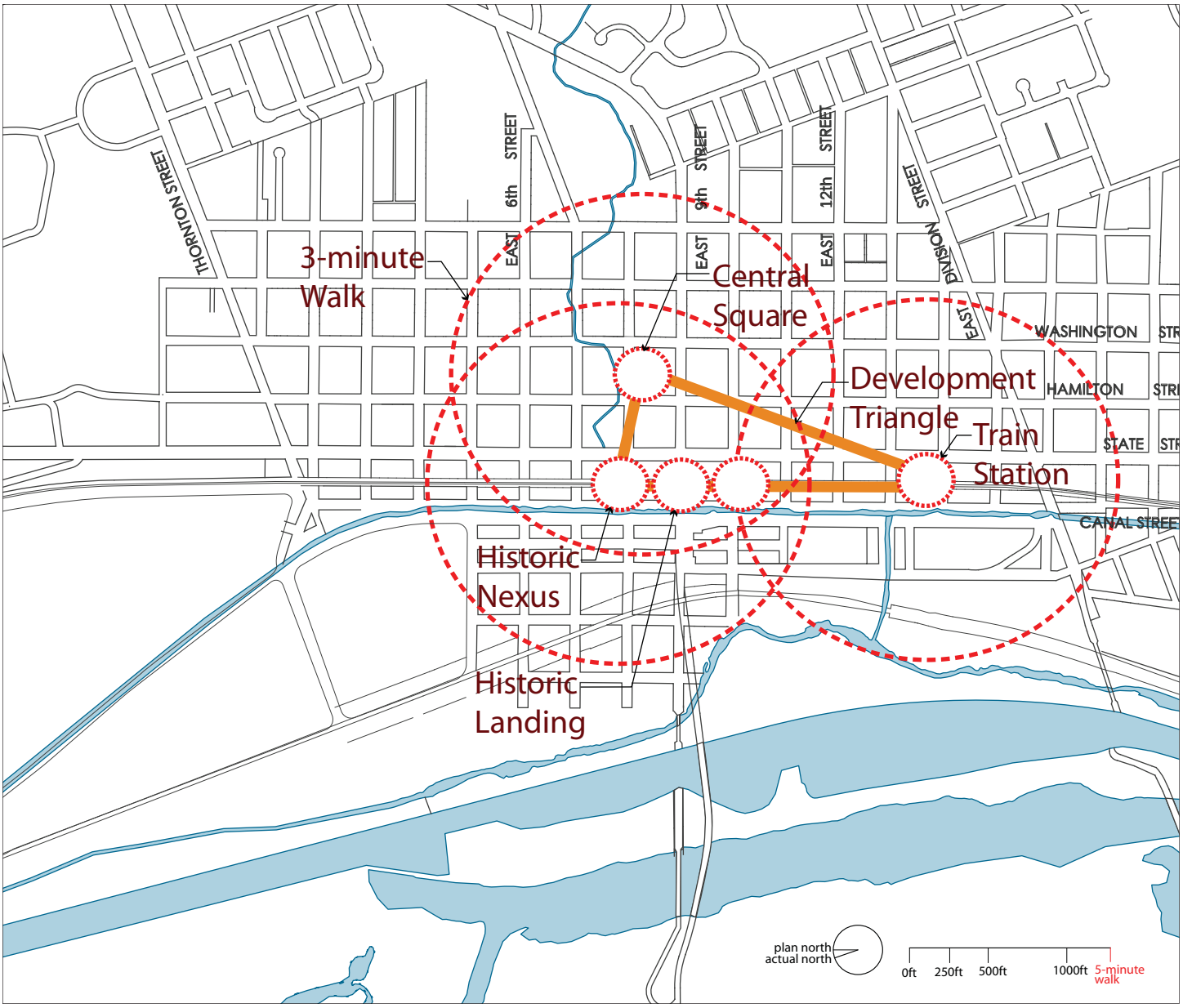
Municipal Core



The Municipal Core consists of the Gaylord Building, Norton Building, Canal Headquarters Building which houses the Will County Historical Society, Central Square and the Library. Many of these buildings are located along 8th Street between Washington and Commerce Streets. The Gaylord and Norton buildings create a north-south civic axis, historically known as the Public Landing and now developed as the new Lincoln Landing.

- Major east-west civic concentration along 8th Street.
- Concentrated focus at intersection of two axis.
- Minor north-south civic axis between tracks and canal.

Development Triangle



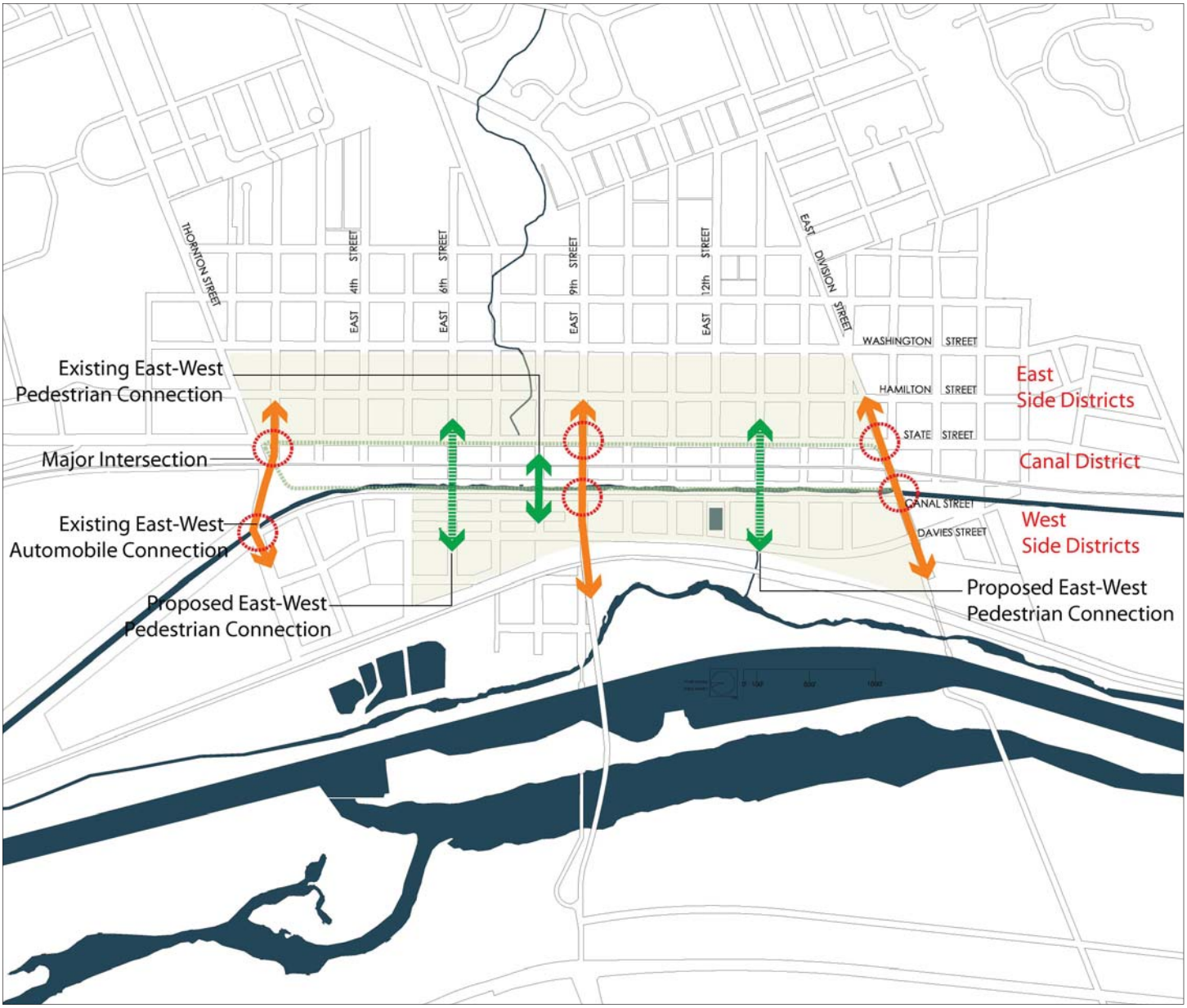
The development triangle demonstrates the connection between three major cultural nodes within the project area:

1. The Gaylord & Norton Buildings and Lincoln Landing
2. Central Square
3. The Historic Metra Train Station

lAll are located within a 5 minute walk of the train station.

- Triangulation increases exposure of all development districts.
- Connection between historic nexus and public transportation is convenient for visitors.

East - West Connections

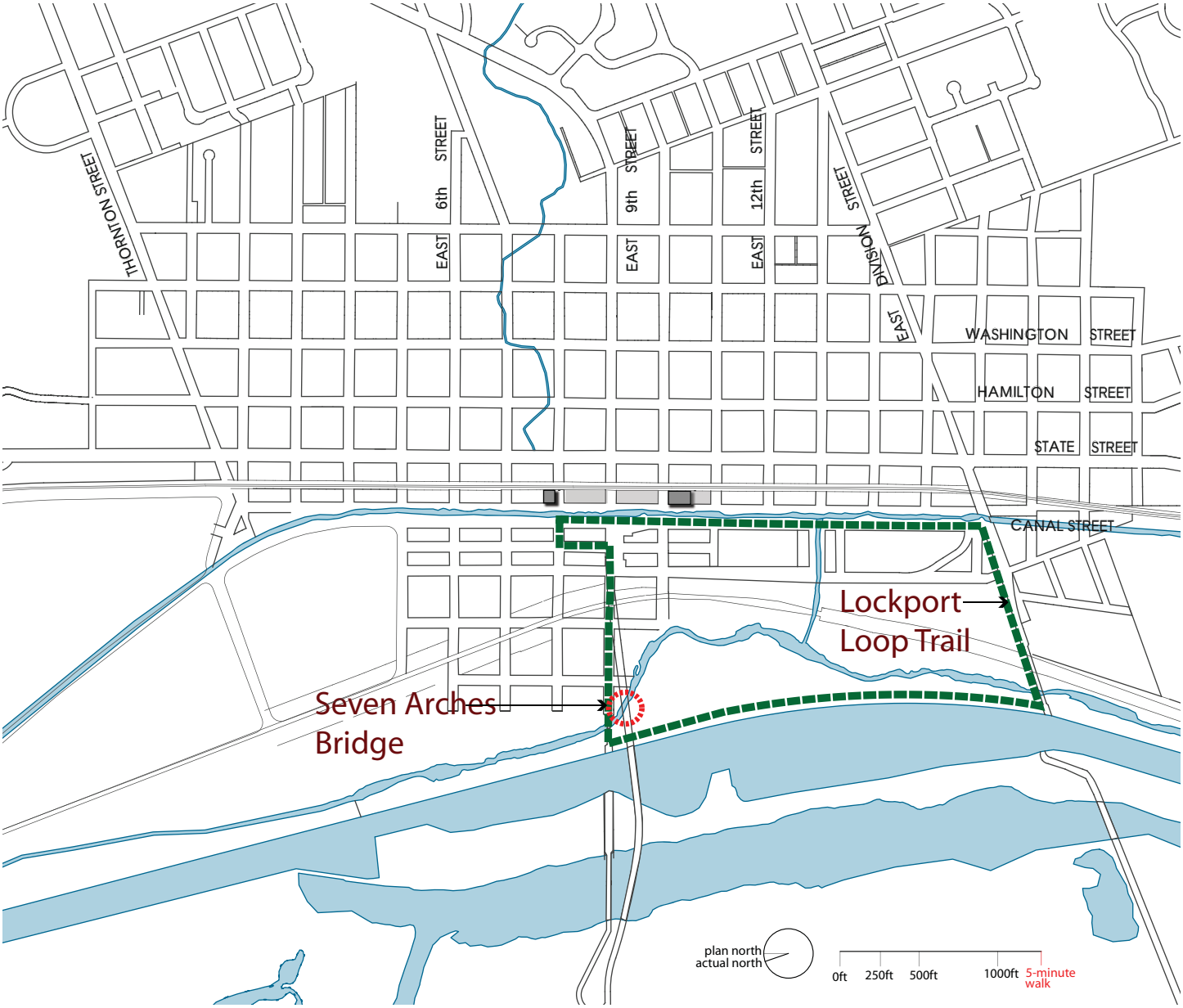


New East-West pedestrian connections across the Canal are suggested at 6th and 13th Streets. Existing pedestrian bridges exist at 8th, 12th, and 15th Streets. Existing automobile connections are located at 2nd, 9th, and Division Streets.

Increasing the opportunity to move in an east-west direction is critical to the success of the west-side districts.

- Provide increased connection to districts west of the Canal.
- East-West connection improvements include bridges, trail extensions and major street intersection re-configurations.

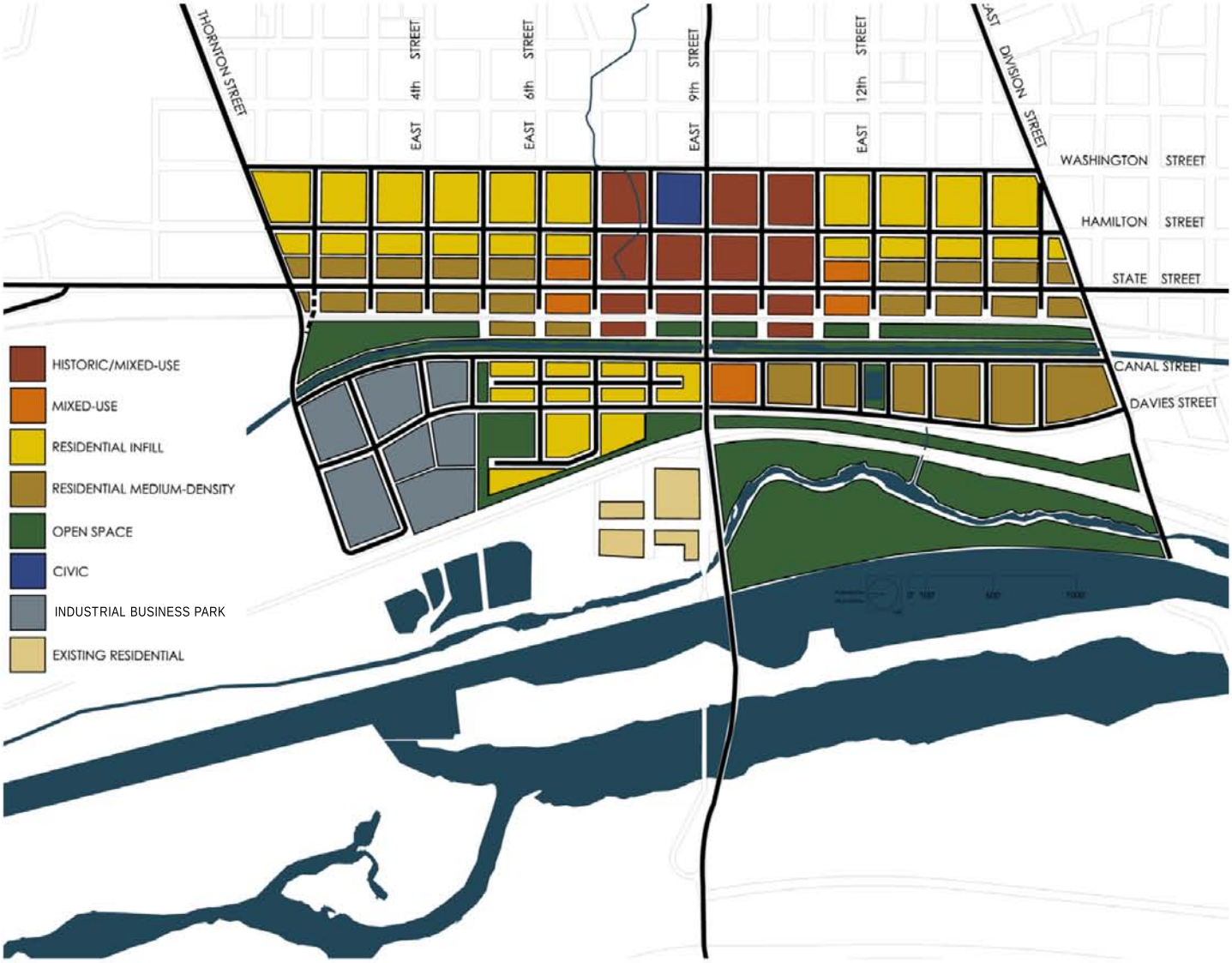
Green Loop Trail



Lockport's proposed Green Loop Trail will connect the Historic Core to the Sanitary & Ship Canal, the historic Seven Arches Bridge and the natural areas of the River District. This loop re-introduces residents and visitors to the unique landscape elements and features west of the I & M Canal.

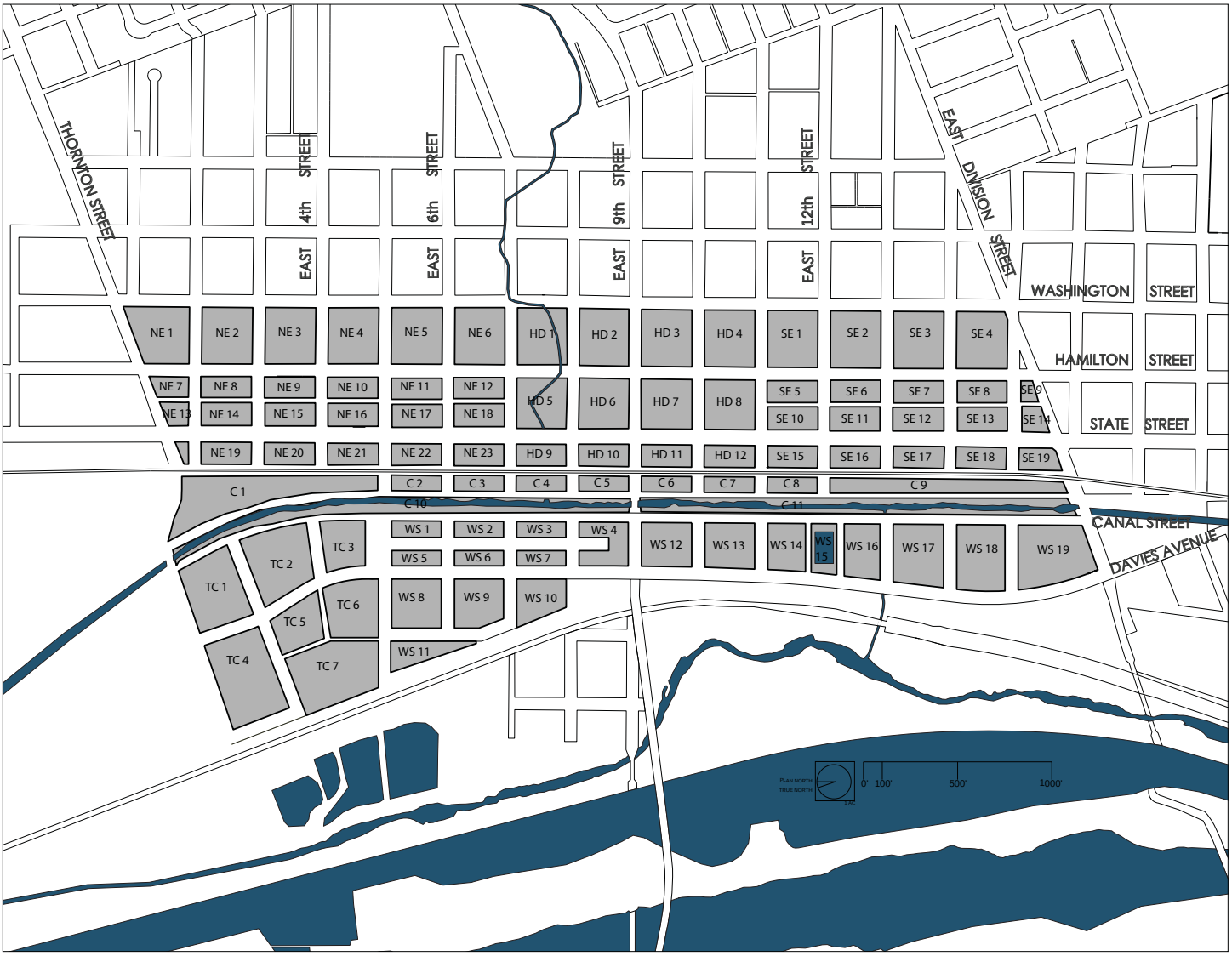
- Green Loop Trail will create critical access to existing features west of the Canal.

Land Use



Looking at the entire scope area of the Master Plan, the Team recommends the land uses shown in this diagram to guide future planning and development. Lockport's Zoning Plan should be updated to reflect these recommendations.

Block Identity Plan



This diagram identifies all block components of the Master Plan as a tool for future planning and development. For portions of the Texaco-Chevron site within the boundaries of the Lockport Downtown Master Plan study area, a general block structure and development program has been recommended. The intent of these recommendations is to ensure, within the Texaco-Chevron site, general compatibility with the goals of the Downtown Master Plan and with adjacent land uses. The goals of the Downtown Master Plan within this portion of the Texaco-Chevron site are to clarify access routes, achieve an interconnected street grid, and create development sites and building sizes that are at a scale and size commensurate with the existing and recommended conditions within Downtown.

Development Capacity

		Area (sf)	Utilization	Land Use	FAR	Development	Acreage
HISTORIC DISTRICT	HD1	79,100	20%	Historic/Mixed-Use	1.0	15,820	1.82
	HD2	79,400	0%	Civic	1.0	0	1.82
	HD3	81,000	20%	Historic/Mixed-Use	1.0	16,200	1.86
	HD4	80,700	20%	Historic/Mixed-Use	1.0	16,140	1.85
	HD5	71,000	20%	Historic/Mixed-Use	1.0	14,200	1.63
	HD6	70,600	20%	Historic/Mixed-Use	1.0	14,120	1.62
	HD7	71,600	20%	Historic/Mixed-Use	1.0	14,320	1.64
	HD8	70,800	20%	Historic/Mixed-Use	1.0	14,160	1.63
	HD9	30,500	20%	Historic/Mixed-Use	1.0	6,100	0.70
	HD10	31,200	20%	Historic/Mixed-Use	1.0	6,240	0.72
	HD11	31,400	20%	Historic/Mixed-Use	1.0	6,280	0.72
	HD12	31,500	20%	Historic/Mixed-Use	1.0	6,300	0.72
		728,800				129,880	16.73
NORTH EAST	NE1	89,400	20%	Residential Infill	0.2	3,576	2.05
	NE2	80,600	20%	Residential Infill	0.2	3,224	1.85
	NE3	79,900	20%	Residential Infill	0.2	3,196	1.83
	NE4	79,600	20%	Residential Infill	0.2	3,184	1.83
	NE5	81,000	20%	Residential Infill	0.2	3,240	1.86
	NE6	80,300	20%	Residential Infill	0.2	3,212	1.84
	NE7	22,600	20%	Residential Infill	0.2	904	0.52
	NE8	33,500	20%	Residential Infill	0.2	1,340	0.77
	NE9	33,400	20%	Residential Infill	0.2	1,336	0.77
	NE10	33,600	20%	Residential Infill	0.2	1,344	0.77
	NE11	33,800	20%	Residential Infill	0.2	1,352	0.78
	NE12	32,800	20%	Residential Infill	0.2	1,312	0.75
	NE13	15,700	40%	Mixed-Use	1.0	6,280	0.36
	NE14	32,400	40%	Mixed-Use	1.0	12,960	0.74
	NE15	32,300	40%	Mixed-Use	1.0	12,920	0.74
	NE16	32,600	40%	Mixed-Use	1.0	13,040	0.75
	NE17	33,900	40%	Mixed-Use	1.0	13,560	0.78
	NE18	32,800	40%	Mixed-Use	1.0	13,120	0.75
	NE19	31,400	40%	Mixed-Use	1.0	12,560	0.72
	NE20	31,400	40%	Mixed-Use	1.0	12,560	0.72
	NE21	31,600	40%	Mixed-Use	1.0	12,640	0.73
	NE22	30,900	40%	Mixed-Use	1.0	12,360	0.71
	NE23	30,600	40%	Mixed-Use	1.0	12,240	0.70
		1,016,100				161,460	23.33
SOUTHEAST	SE1	80,400	20%	Residential Infill	0.2	3,216	1.85
	SE2	80,900	20%	Residential Infill	0.2	3,236	1.86
	SE3	80,700	20%	Residential Infill	0.2	3,228	1.85
	SE4	81,400	20%	Residential Infill	0.2	3,256	1.87
	SE5	32,000	20%	Residential Infill	0.2	1,280	0.73
	SE6	33,100	20%	Residential Infill	0.2	1,324	0.76
	SE7	33,000	20%	Residential Infill	0.2	1,320	0.76
	SE8	34,300	20%	Residential Infill	0.2	1,372	0.79
	SE9	10,900	20%	Residential Infill	0.2	436	0.25
	SE10	32,400	40%	Mixed-Use	1.0	12,960	0.74
	SE11	32,600	40%	Mixed-Use	1.0	13,040	0.75
	SE12	33,300	40%	Mixed-Use	1.0	13,320	0.76
	SE13	32,500	40%	Mixed-Use	1.0	13,000	0.75
	SE14	17,200	40%	Mixed-Use	1.0	6,880	0.39
	SE15	31,000	40%	Mixed-Use	1.0	12,400	0.71
	SE16	31,700	40%	Mixed-Use	1.0	12,680	0.73
	SE17	31,700	40%	Mixed-Use	1.0	12,680	0.73
	SE18	31,800	40%	Mixed-Use	1.0	12,720	0.73
	SE19	24,700	40%	Mixed-Use	1.0	9,880	0.57
		765,600				138,228	17.58
TEXACO/CHEVRON	TC1	110,600	85%	Industrial/Manufacturing	0.2	18,802	2.54
	TC2	113,900	85%	Industrial/Manufacturing	0.2	19,363	2.61
	TC3	57,300	85%	Industrial/Manufacturing	0.2	9,741	1.32
	TC4	145,500	100%	Industrial/Manufacturing	0.2	29,100	3.34
	TC5	71,800	100%	Industrial/Manufacturing	0.2	14,360	1.65
	TC6	88,000	100%	Industrial/Manufacturing	0.2	17,600	2.02
	TC7	139,500	100%	Industrial/Manufacturing	0.2	27,900	3.20
		726,600				136,866	16.68
CANAL	C1	157,500	0%	Open Space	0.0	0	3.62
	C2	21,700	20%	Residential Med Den	0.5	2,170	0.50
	C3	21,700	20%	Residential Med Den	0.5	2,170	0.50
	C4	22,200	20%	Historic/Mixed-Use	1.0	4,440	0.51
	C5	22,300	0%	Open Space	0.0	0	0.51
	C6	23,300	0%	Open Space	0.0	0	0.53
	C7	22,200	20%	Historic/Mixed-Use	1.0	4,440	0.51
	C8	22,400	20%	Residential Med Den	0.5	2,240	0.51
	C9	105,800	0%	Open Space	0.0	0	2.43
	C10	218,000	0%	Open Space	0.0	0	5.00
	C11	206,900	0%	Open Space	0.0	0	4.75
		844,000				15,460	19.38
WEST SIDE	WS1	23,000	20%	Residential Infill	0.2	920	0.53
	WS2	22,200	20%	Residential Infill	0.2	888	0.51
	WS3	20,000	20%	Residential Infill	0.2	800	0.46
	WS4	49,500	20%	Residential Infill	0.2	1,980	1.14
	WS5	21,300	20%	Residential Infill	0.2	852	0.49
	WS6	21,100	20%	Residential Infill	0.2	844	0.48
	WS7	26,800	20%	Residential Infill	0.2	1,072	0.62
	WS8	68,700	20%	Residential Infill	0.2	2,748	1.58
	WS9	64,600	20%	Residential Infill	0.2	2,748	1.48
	WS10	53,700	20%	Residential Infill	0.2	2,584	1.23
	WS11	40,400	20%	Residential Infill	0.2	2,148	0.93
	WS12	62,300	100%	Mixed-Use	1.0	62,300	1.43
	WS13	63,300	100%	Residential Med Den	0.5	31,650	1.45
	WS14	50,100	100%	Residential Med Den	0.5	25,050	1.15
	WS15	36,000	0%	Open Space	0.0	0	0.83
	WS16	54,600	100%	Residential Med Den	0.5	27,300	1.25
	WS17	85,800	100%	Residential Med Den	0.5	42,900	1.97
	WS18	89,900	100%	Residential Med Den	0.5	44,950	2.06
	WS19	117,600	100%	Residential Med Den	0.5	58,800	2.70
		970,900				310,534	22.29

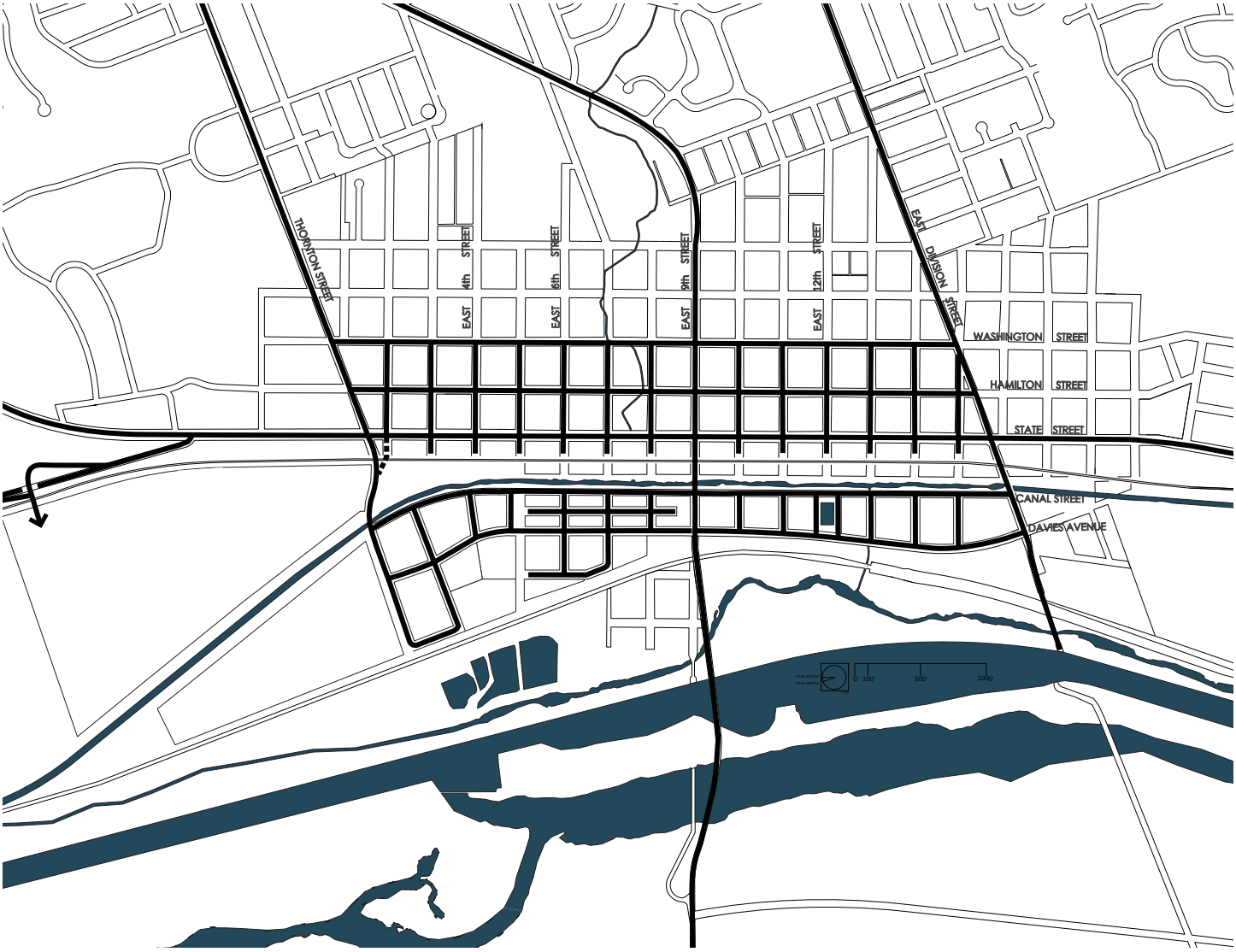
Total Site Capacity (sf)	**892,428**
Site Area	**12,316,000**
Net Developable Area	**5,052,000**
Road/Infrastructure	**7,264,000**

Development capacity is an indicator of the potential development capacity of the parcels identified in the Block Identity Plan. Each parcel has been given the following attributes:

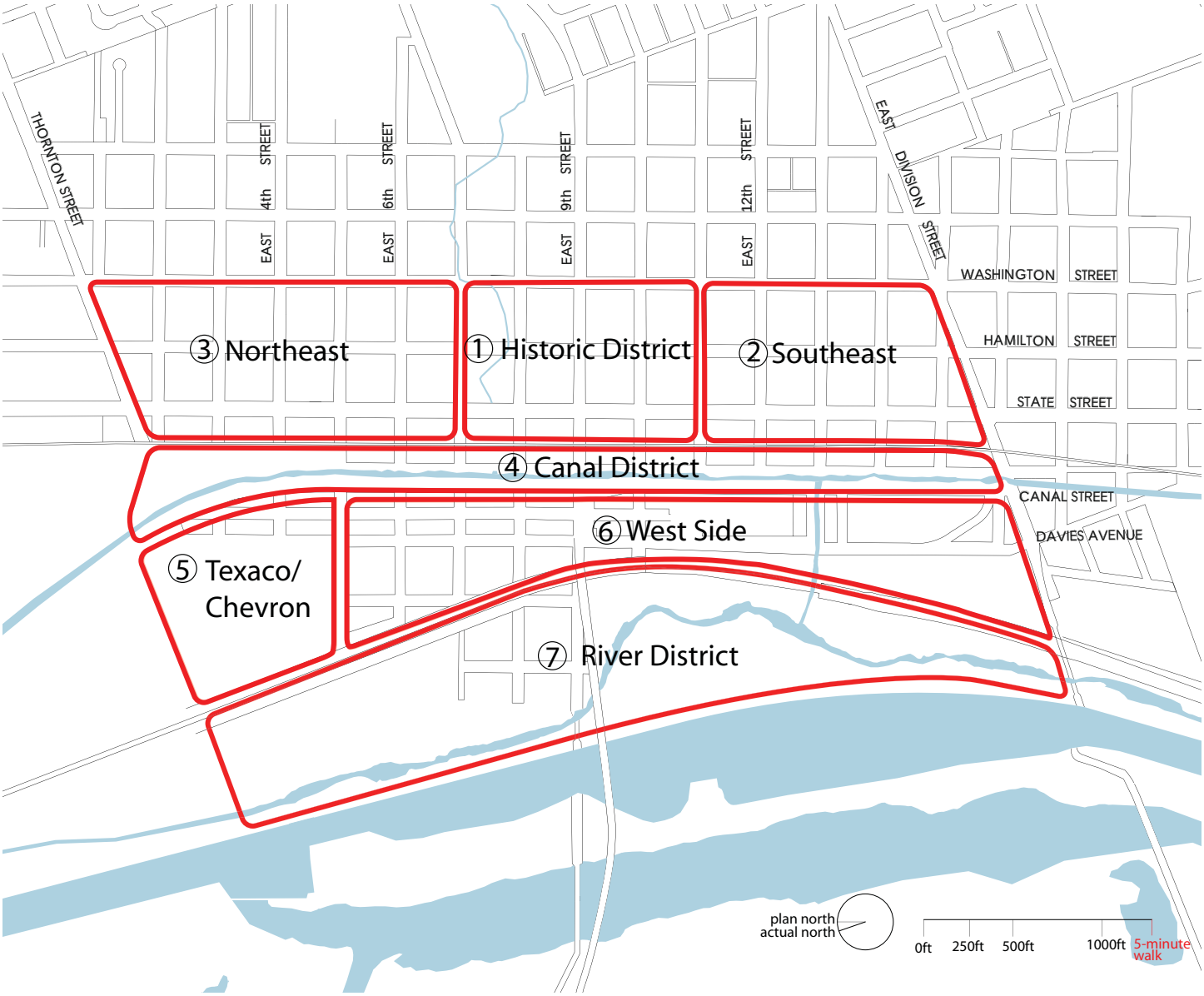
1. Area: Represents the land area of the parcel or block.
2. Utilization: Represents the probable percentage of the parcel or block that may be available for redevelopment. Parcels with existing development have a lower likelihood of development, and thus a lower utilization percentage. Vacant land has a high probability of redevelopment, and thus a higher utilization percentage.
3. Land Use: Represents the general, proposed land use for the parcel or block. Specific land uses may vary within each District.
4. FAR: Represents the probable Floor-Area ratio (FAR) for those portions of the block that may undergo redevelopment.
5. Development: Represents the potential development capacity of the parcel or block, given a probable site utilization and FAR.
6. Acreage: The acreage of the parcel or block.

These development estimates are provided as one potential development scenario for the purposes of infrastructure and transportation planning. These estimates can also be used to calculate potential tax revenues from future development. This development scenario may be adjusted to reflect zoning, economic, public policy or other constraints.

Road Framework



This road framework diagram is a quick reference for all recommended future road and existing to remain road locations. The Thorton Street extension to the Texaco/Chevron Site should be addressed as a long-term planning effort.

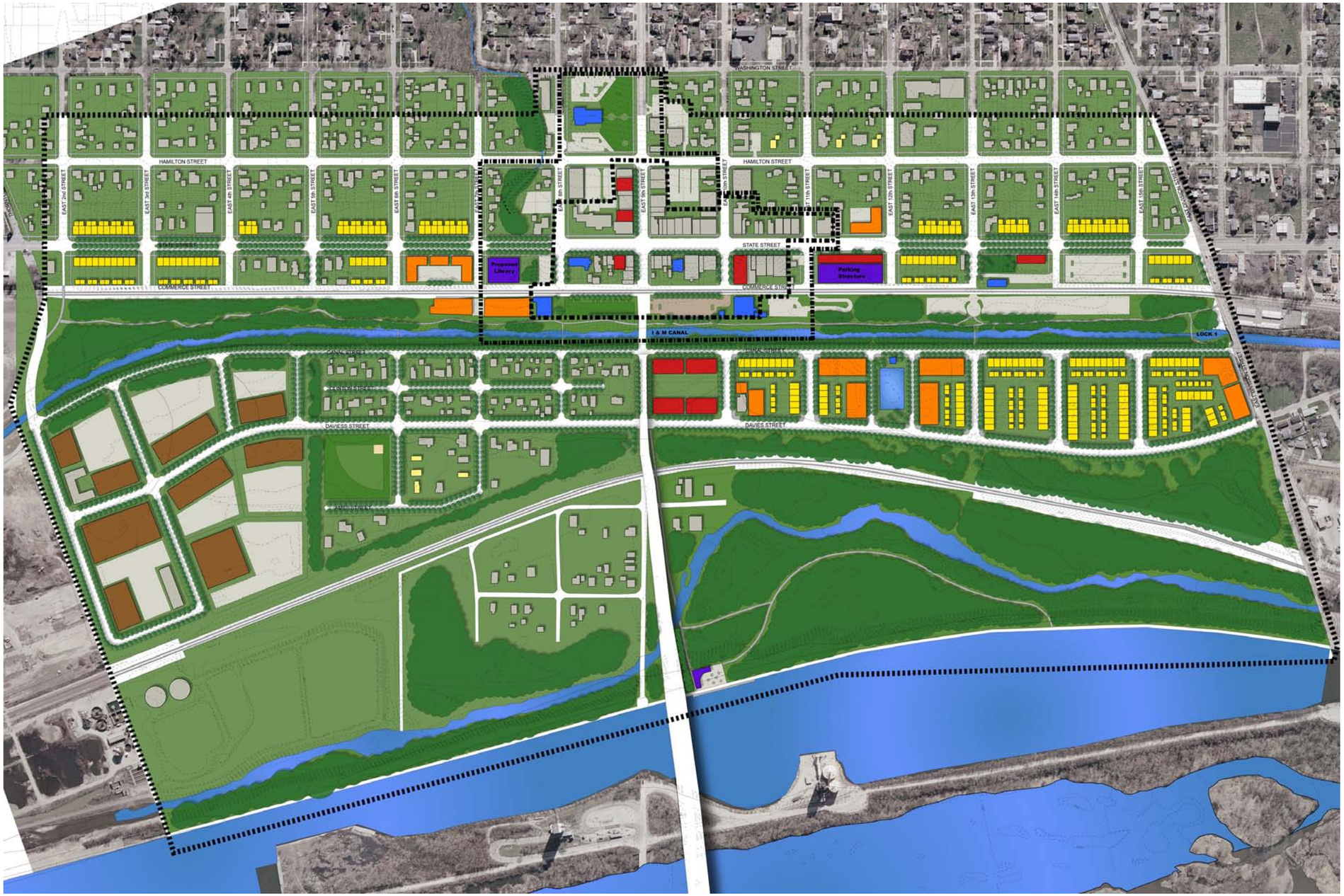


District Boundaries

Downtown Lockport can be seen as seven distinct districts. Each of these districts has individual assets. These assets provide each district with its own identity, which contribute to the character of the downtown as a whole.

These seven districts have been identified as:

1. Historic District
2. Southeast
3. Northeast
4. Canal District
5. Texaco/Chevron Site
6. West Side
7. River District

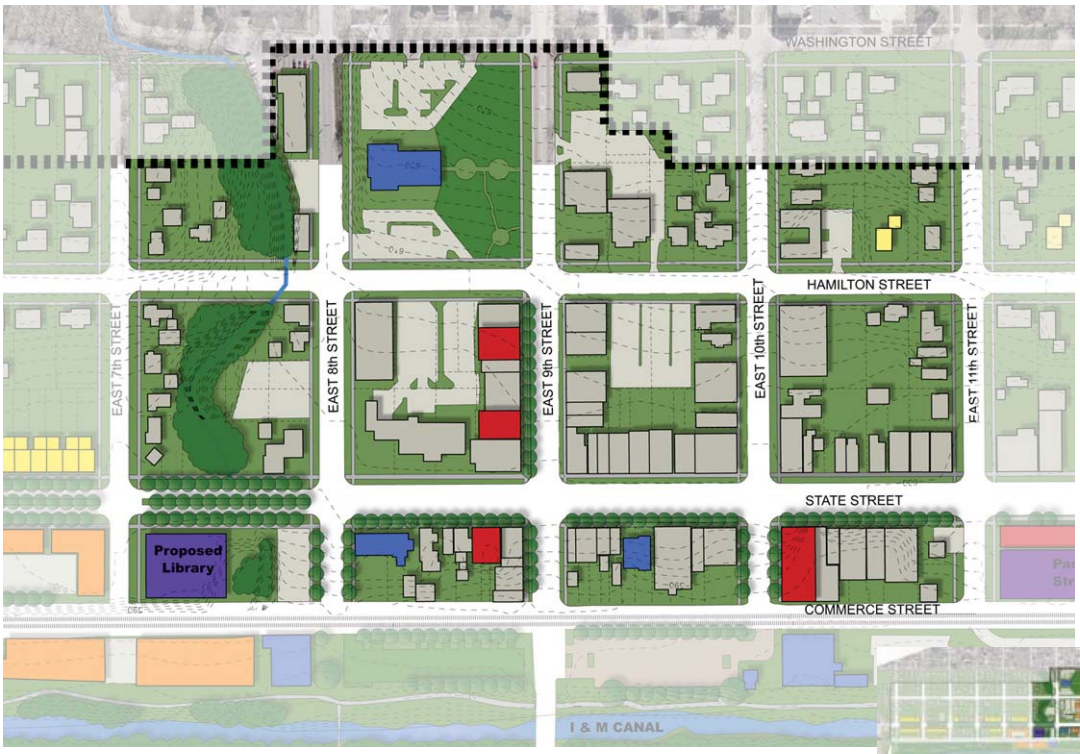


Legend

- Existing Community Assets
- Existing Buildings
- Proposed Concepts
- Industrial
- Parks
- Townhouse Residential
- Infill Single Family Residential
- Multi-Family Residential
- Mixed Use/Commercial
- Water

District Planning

Development District 1: Historic District



Historic District and Location Map

Economic Development

Issues and Challenges

From an economic perspective, there are three primary issues impacting redevelopment potential in Lockport's Historic District: limited business mix; poor physical appearance; and limited consumer accessibility. According to ERA research, just 11 percent of Lockport's downtown businesses are retail-oriented (17 out of 150 downtown businesses) which is low in comparison to other downtown communities. Downtown Lockport is also comparatively weak in core retail segments typically present in destination downtowns including women's apparel, home furnishings, and miscellaneous retail. Further limiting downtown Lockport's appeal is its physical appearance which does not "sell" the Historic District as an attractive or successful location for business investment.

Physical accessibility and policy issues have also contributed to a Historic District with limited business success. In particular, sidewalk and road conditions within the Historic District are not supportive of window shopping and casual downtown interaction by pedestrians. Additionally, a perceived lack of downtown parking and inconsistent

business hours both contribute to an overall reluctance by Lockport residents to visit the downtown.

Existing Fabric

Opportunities and Priorities

Lockport's Historic District has the potential to be an economically stable and vibrant area both during the daytime and evening hours. In order to enhance economic stability and downtown activity, Historic District redevelopment priorities should be threefold: 1) "sell" the Historic District to potential businesses and consumers; 2) enhance the Historic District's pedestrian accessibility; and 3) locate key demand generators within the Historic District. These moves will ultimately stabilize the downtown market and generate demand for additional housing and office development around the Historic Core.

First and foremost, the Downtown needs to be "sold" to area consumers and businesses through streetscape enhancements and roadway reconfigurations that prioritize physical beautification, slow the speed of traffic, and enhance pedestrian safety. Presently, the Downtown does not have an appearance of being economically vibrant, which is a deterrent to potential business investment. Encouraging pedestrian activity within the Historic District and slowing the speed of traffic will enhance business visibility thereby reducing business turn-over.

An additional priority within the Historic District focuses upon broadening the current consumer market and building upon its appeal as a destination for area families and local schools. Downtown demand generators in the form of museums, activity centers and civic uses will be important programming components to appeal to these segments.

Furthermore, Lockport's history and canal location provides a unique opportunity to generate daytime and evening activity by telling Lockport's "story" through programming in the form of festivals, events and family-based activities.

Transportation

Issues and Challenges

The Historic District is challenged by the vehicular needs of the region. A demand to move traffic on two state highways through downtown Lockport has resulted in a road system that makes walking and biking unsafe and unfriendly. In effect, this creates a poor downtown pedestrian experience that diminishes downtown business opportunities. Historic Core vehicular transportation centers on the intersection of State Street (IL 171) and 9th Street (IL 7). It is the nexus of all traffic that travels into, out of, and through downtown Lockport, challenging the intersection during peak hours. Of critical concern are the truck volumes passing through the Historic District, which create a poor pedestrian experience.

Consistent peak parking demand on a Friday or Saturday evening is driven primarily by the Moose Lodge, restaurants and bars, and special events in downtown Lockport. On a Friday or Saturday evening, you can find some areas of the Historic Core quite full. These on-street areas include 9th Street, 10th Street, 11th Street and State Street. Off-street lots include the Hamilton Street lot (behind and serving the Moose Lodge) and the parking lot serving the Gaylord Building.

Both on-street and off-street parking is "priced" with time limitations that range from 8 to 2 hour free parking. The angled parking on 10th and 11th Streets does account for a well utilized supply during these peak times, yet there is the opportunity to redesign these spaces for better sidewalk utilization. The Moose Lodge and other future uses on these streets might benefit from the reconfiguration of this parking and partial replacement in a proposed parking structure.

Opportunities and Priorities

The opportunity of the Historic District is to leverage its beautiful downtown assets by balancing all the travel needs in Lockport. These include pedestrians, bicyclists and cars. A State Street "road diet" provides the opportunity to adequately serve current and future state route traffic demand while concurrently making downtown Lockport a better place for pedestrians and bicyclists. Although trucks do represent local and regional commerce, they should not be a detriment to a vibrant downtown Lockport. It is a priority for the City of Lockport to push hard to make State Street usable for all modes of transportation. Lockport has the support of the Illinois State Legislation when they passed what is defined as "complete streets" legislation in 2008 to include safe bicycling and walking facilities in all projects in urbanized areas.

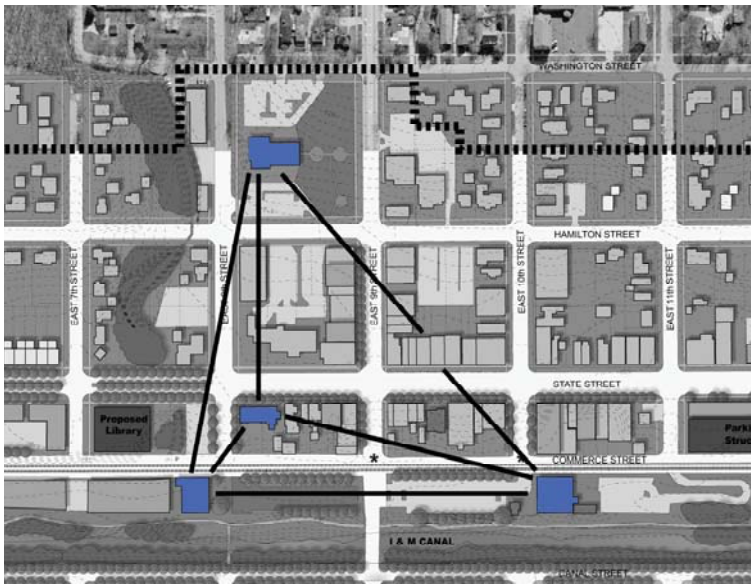
Furthermore, a study by Iowa State University found significant safety and operational advantages of reducing a four lane undivided roadway to a three lane cross section. It slightly reduced travel speeds, made both driving and walking safer, and the operational flows during the peak hour were not impaired.

The current use of on-street and off-street parking in the Historic District is a good indication that people are coming to Lockport.

Urban Design

Issues and Challenges

The Historic Core does not leverage existing social or physical assets such as landmarks, buildings of historical significance, gathering places, the train station, or residential neighborhoods through planned connections. This disconnect reduces the ability of the Historic District to establish an identifiable character or 'brand' identity within Lockport and affects its ability to attract both local and tourist interest.



Historic Links

Opportunities and Priorities

The Historic District is characterized by architecturally significant buildings, higher density than other districts, and concentrated commercial uses. The Historic Core serves as an important commercial and cultural center. Activation of existing streets through mixed-use infill and additional public amenities will create an identifiable center of Downtown.

The potential of a new Library site in the Downtown with expanded services will generate activity critical for downtown stability. In our analysis of potential sites, Site A as shown on the following Potential Library Locations figure was chosen for its proximity to Central Square, the two adjacent museums, a highly visible gateway location on State Street, and a potential positive relationship with a “daylighted” Milne Creek. We recommend that parking for the library be incorporated into a lower level garage. The existing Library location has great potential for municipal use due to its location across from Central Square and its adjacent parking which is in the center of the block and close to other amenities in the downtown.

The “daylighting” of Milne Creek is recommended as its location acts as a gateway into the Historic District. The site is limited to development due to the creek, and building a structure over the creek would be challenging. Currently, the site is a parking lot with cars parked for long term. Daylighting the creek would tie the surrounding natural areas to Downtown. There may not be a direct return for the site, but the investment to this site would improve the image of the entire downtown.

Historic District Infill
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Potential Library Locations

Infrastructure

Issues and Challenges

The Historic District has the most character and also presents the most challenges from an infrastructure perspective. Grading issues will provide challenges to meet the current ADA accessibility legislation. Older utility infrastructure should be updated so that redeveloped areas will not be disturbed to replace underground utilities. The existing watermains are adequate to support the proposed redevelopment with the exception of a few small diameter mains. The existing sanitary sewers are adequately sized to support the recommend redevelopment and infill development.

Opportunities and Priorities

Although most of the recommendations for the Historic District can be implemented as redevelopment occurs, the replacement or lining of the existing sanitary sewer system should be considered a priority since the reduction of infiltration into the system would reduce the City's cost for sewage treatment. Other improvements that should be considered for implementation in advance of redevelopment are the relocation of overhead utilities as this aesthetic enhancement may help to spur redevelopment interest.

Small diameter watermains should be replaced as redevelopment and infill development occurs to support the needs of fire suppression systems. Larger diameter mains should be considered for replacement if they will be beneath redeveloped streetscapes or roadways as they are reaching the end of their serviceable life and maintenance and replacement in the future could disturb newly installed improvements. The additional studies being prepared by the City should be consulted for more detailed information regarding water distribution system enhancements.

Summary of Recommendations

- Target the Historic District for extensive streetscape and building upgrades.
- Expand museum programming throughout the Historic District.
- Expand downtown programming with festivals and evenings that highlight local history, recreation, and businesses.
- Retain existing and attract new downtown demand generators - the Library, a children's museum and eventually, a theater.
- Work with local business owners to establish consistent store hours.
- Attract restaurants and evening entertainment venues to expand business hours.
- Attract new retail specializing in furniture/home accessories and recreational goods (running/biking).
- Attract personal services such as spa or salon and a small commercial fitness center.
- Establish a Special Service Area (SSA) within the Historic Core.
- Work with the Illinois Department of Transportation and state legislators to make State Street a "complete street" serving all users of the transportation system, including bicyclists and pedestrians.
- Downsize State Street from a four lane to a three lane travel-way that includes a center left turn lane and two through lanes in each direction.
- Include five-foot striped bike lanes on State Street.
- Utilize bulb-outs at intersections on State Street to make crossing State Street safer for pedestrians.
- Install new traffic signals with visible crosswalks and pedestrian countdown signals on 11th Street.
- Install visible crosswalks at all intersections in the Historic District.
- Enhance and expand existing public parking lots and eventually provide a parking structure that can help satisfy the demand of visitors to downtown Lockport. Way-finding signage as shown in the Main Street Lockport Plan should be provided for easy guidance and the price of parking should reflect its potential demand.
- Install pay and display meters and price on-street parking on all streets in the Historic Core. These rates can be as little as 25 cents per hour, but can help generate revenue for downtown transportation improvements.
- Continue to monitor the weekday and weekend parking demand with parking surveys and adjust the price of parking accordingly. These surveys should measure the parking demand and the turnover of the on- and off-street parking spaces. The goal should be to have about 85% of parking spaces occupied, while 15% remain open for people willing to pay for the hourly rate.
- Consider shared parking options when downtown developments are established.
- Implement a shared bike lane on 8th Street.
- Construct bike parking at strategic locations in the Historic District.
- Work to set up coordinated valet zones and loading zones as the restaurant/ entertainment and retail activity increases.
- Consider alternative library sites within the Historic Core, especially Site A..
- Provide recommendations to developers/investors for sustainable development

including ‘green’ building technologies and LEED certification.

- Identify opportunity sites for infill development.
- Create landscape and streetscape materials palette.
- Create architectural design guidelines.
- Replace watermains adjacent to redevelopment areas. Existing watermain is in excess of 50 years old and its condition is unknown.
- Line or Replace sanitary sewer adjacent to redevelopment areas. Although the size of the existing mains supports the development, the City experiences significant infiltration into the system which could be resolved by lining or replacing the existing mains.
- Relocate overhead electrical and data utilities below ground when possible, particularly along State Street.
- Eliminate steps and grades that do not meet the most current version of the Illinois Accessibility Code, in particular the single step along 8th Street, 11th Street and State Street.
- Evaluate locations of fire hydrants along State Street and add as required by redevelopment.
- Evaluate vaulted sidewalks as redevelopment occurs.

Development District 2: Southeast

Southeast District and Location Map

Economic Development

Issues and Challenges

Population density is critical to downtown Lockport business success. Overall, housing density around Lockport's downtown tends to be less than that of comparable communities, a condition reflected in a Downtown with little economic stability. Overall, building the trade area population of the Historic District will be crucial to the long-term economic success of its businesses. This may be achieved in the Southeast and Northeast Districts in the form of infill development. Challenges related to infill residential and mixed-use development in these districts are threefold: 1) small parcels with multiple owners per block; 2) limited demand in recent years for downtown housing as suggested by limited home sales; and 3) as opposed to entire block development, unit-by-unit development is not cost-effective.

Opportunities and Priorities

Attracting surrounding residents to downtown Lockport will be critical to overall downtown economic stability. Our analysis revealed a demand of 320 to 360 units of urban-style housing in and around Lockport over the next twenty-five years. Market conditions will ultimately determine distribution and format of housing around downtown Lockport, however, demand for housing in the Southeast district will be particularly advantaged by its proximity to the Metra Station. Although Metra service in Lockport is limited, there may be an opportunity to target new residents to Lockport who do not rely upon the Metra for access to employment. These households could include retirees, or those employed within Lockport or adjacent communities.

Infill Housing Location and Examples

From a market perspective, priorities and opportunities in the Northeast and Southeast Districts relate to expanding trade area households, broadening downtown Lockport's selection of retail and restaurants through mixed-use development along State Street, and strengthening connections between the Northeast and Southeast Districts with the Historic District, and West Side District. Infill residential development within the Northeast and Southeast Districts is likely to benefit the City and local residents by enhancing residential property values and broadening the local tax base. However, infill development will need to be facilitated by the City through property acquisition, assembly, and site preparation.

Transportation

Issue and Challenges

The Southeast District is challenged by the under-utilization of the Metra Station and the number of trains that can run along the Heritage Corridor. Metra service is limited due to the heavy freight traffic of the Canadian National Rail Company (CN), the owner of the tracks. Only three passenger trains run inbound to Chicago in the morning and three outbound home in the evening. This limitation forces many to drive 20 minutes east to board the Metra Southwest Service, wasting time and resources as well as providing the community of Orland Park with retail dollars that could be spent in Lockport.

Opportunities and Priorities

The City of Lockport should join forces with local legislators and the other communities along the Heritage Corridor to push for the realization of expanded service. The $1.5 billion CREATE program has been established by the State of Illinois, City of Chicago, Metra and the nation's freight railroads to fund rail improvements in the Chicago area and the program is working on grade separation of rail lines to increase capacity on this line. Along with the $9.5 million Brighton Park signal system improvement project funded by the CN, Norfolk Southern and CSX ralroad companies and completed in 2007, CREATE has four projects planned within the 2007-2009 time frame. This will ultimately free up capacity on the line for both freight and Metra rail traffic. Metra however, is challenged by funding that limits the purchase of new cars and line storage capability that must be resolved as well.

Urban Design

Issues and challenges

The Southeast District is challenged by the under-utilization of the Metra train and illegible connection to the Historic Core by way of unrelated land uses and building typologies. There are fewer buildings of historic significance in the Southeast District and more lots with potential for infill. The Southeast District has not reached its full potential in part due to its low density of supportive businesses, limited Metra service and underdeveloped

streetscape.

Opportunities and Priorities

The Southeast District character changes from commercial to residential. The Metra Station is located so that most of downtown Lockport is within a 3-5 minute walk from the train station. This District has an opportunity to leverage land use and locational assets into transit-oriented development. An opportunity exists to use infill development to spur business near the train station. Development of the streetscape and enhancement of the pedestrian environment will provide identity and ownership to the District. Support for the increased use of the train and focused supportive development, strengthens connections between Lockport and the region.

Streetscape Character

Infrastructure

Issues and Challenges

The majority of the planned redevelopment within this District is either commercial or transit oriented and will be focused mainly along State Street. As with the other Districts, the aging utility infrastructure will require replacement mainly due to its age. The existing watermains are adequate to support the proposed redevelopment with the exception of a

few small diameter mains. The existing sanitary sewers are adequately sized to support the recommend redevelopment and infill development. Lighting within the residential and transition areas of the district are mainly provided by mast arms mounted on utility poles. Lighting along State Street is provided by Davit Arm Poles. Electrical and data utilities are located overhead on wood pole along the roadway right of ways.

Opportunities and Priorities

The opportunities for the infrastructure improvements are those that support or encourage redevelopment or infill development. The extension of the ornamental lighting along State Street as well as the relocation of overhead electric and data lines will improve the aesthetics of the area and encourage redevelopment. The existing sanitary sewer, although adequately sized, should be replaced or lined to minimize infiltration issues that are currently being experienced by the City.

Small diameter watermains on side streets should be replaced as redevelopment and infill development occurs to support the needs of fire suppression systems. Larger diameter mains on State Street should be considered for replacement if they will be beneath redeveloped streetscapes or roadways as they are reaching the end of their serviceable life and maintenance or replacement in the future could disturb newly installed improvements. The additional studies being prepared by the City should be consulted for more detailed information regarding water distribution system enhancements.

Summary of Recommendations

- Identify key infill sites and prioritize vacant lots and those adjacent to the Historic Core.
- Reform zoning to allow for higher-density housing adjacent to the Historic Core and Metra Station.
- Pursue land acquisition and assembly to enable infill housing and mixed-use development.
- Strengthen pedestrian connections to the Historic District and West Side District.
- Create a high level organization charged specifically with increasing the line capacity of passenger rail service on the Heritage Corridor.
- Implement the boulevard design on State Street and traffic calming at its intersections.
- Construct the bike lane on the newly re-constructed 13th Street, connecting to State Street, the Metra Station, the I & M Canal Trail and the Loop Trail.
- Install the approved traffic signal at State and 13th street with international visible crosswalks and pedestrian countdown signals.
- Implement the planned roadway cross sections on 13th, 14th and 15th Streets and eliminate the occasional head-in parking located in parkways along these streets.
- Implement the planned roadway cross sections on Hamilton Street and Division Street.
- Connect all sidewalks in the area.

- Maintain access control along State Street including no mid-block median breaks for vehicular access.
- Make sure all new developments provide sidewalks and contribute to transportation funding.
- Make sure all new developments provide sidewalks and contribute to transportation funding.
- Create ceremonial gateways into the Downtown along State Street from Division Street.
- Leverage Metra station with transit-based mixed-use development.
- Implement streetscape improvement program.
- Structure development by scale and use along State Street.
- Create landscape and streetscape materials palette.
- Create architectural design guidelines.
- Replace State Street water main adjacent to redevelopment areas. Existing watermain is in excess of 50 years old and its condition is unknown. Replace 4” dia. watermain along 11th Street, 12th Street, 13th Street and 15th Street with min. 8” dia. watermain.
- Line or replace sanitary sewers adjacent to redevelopment areas. Although the size of the existing mains supports the development, the City experiences significant infiltration into the system which could be resolved by lining or replacing the existing mains.
- Relocated overhead electrical and data utilities below ground when possible, particularly along State Street.
- Extend ornamental lighting from 13th Street to 15th Street.
- Evaluate location of fire hydrants along State Street and add as required by redevelopment.

Development District 3: Northeast

Northeast District and Location Map

Economic Development:

Same as District 2: Southeast

Transportation

Issue and Challenges

The Northeast District will continue its identity as primarily a residential neighborhood. The residential setting poses few traffic challenges other than streets that are in need of repair. As future developments are constructed along State Street, parking and traffic challenges should be met primarily with on-street parking and parking provided by the new developments.

Chevron is proposing a 120 acre warehouse/manufacturing center west of this District. This development is expected to generate a significant amount of both car and truck trips per day. Downtown Lockport cannot afford to have more trucks rumbling through downtown if it strives to enhance the pedestrian environment. Therefore, careful consideration must be given to how the community can mitigate any negative traffic impacts of the development.

Opportunities and Priorities

Connectivity between the Northeast and other destinations in downtown Lockport is important to provide local residents entertainment and retail opportunities to which they can walk and bike.

The car and truck impacts of the Texaco/Chevron Site on Downtown must be dealt with carefully. This important economic generator for the community has the potential to substantially limit the pedestrian and bicycle viability of downtown Lockport. We recommend the following long-term transportation planning efforts:

- Close the intersection of State and 2nd Streets to trucks.
- Create a new bridge over the railroad tracks from the Texaco/Chevron Site to Thornton Street.
- Work with Lockport Township to increase the current 8-ton weight limit on Thornton Street to act as a direct connector to I-355.

New Infill Housing Location and Examples

Urban Design

Issues and challenges

The Northeast District is challenged by significant truck traffic along State Street and underdeveloped residential land uses. This District is characterized by under-utilized commercially zoned land, vacant lots prime for infill and low-density single-family residential land uses. Along State Street, varied building typologies and non-uniform land uses are present. The development character of this District is less defined and less dense than surrounding districts.

Opportunities and Priorities

State Street within the Northeast District acts as a gateway into the commercial core of Downtown. Through targeting strategic locations for intervention and parcel assembly, greater development potential is possible. An opportunity exists to strengthen east-west relationships across the Canal. Streetscape and development of the pedestrian experience should accompany redevelopment of the District.

Creation of an identity for the Northeast District through the State Street boulevard design helps local and visitor traffic orient themselves to the Downtown and provides structure to the District as a whole.

Infrastructure

Issues and Challenges

The existing infrastructure for this District is adequate (with minor exceptions) for the existing residential development and proposed infill development along State Street. The only significant challenge for this district will be the relocation of the overhead electrical to improve the aesthetics of State Street.

Watermains and sanitary sewers are adequately sized for the existing residential and proposed infill development. Lighting within the residential and transition areas of the District is mainly provided by mast arms mounted on utility poles. Lighting along State Street is provided by Davit Arm Poles. Electrical lines and data utilities are located overhead on wood poles along the street right of ways.

Opportunities and Priorities

The opportunities for infrastructure improvements are those that support or encourage infill development. Streetscape and ornamental lighting improvements as well as the relocation of overhead electric and data lines will improve the aesthetics of the area and encourage infill development along State Street.

Small diameter watermains on side streets should be replaced as redevelopment and infill development occurs to support the needs of fire suppression systems. Larger diameter mains on State Street should be considered for replacement if they will be beneath redeveloped streetscapes or roadways as they are reaching the end of their serviceable life and maintenance or replacement in the future could disturb newly installed improvements. The additional studies being prepared by the City should be consulted for more detailed information regarding water distribution system enhancements.

The existing sanitary sewer although adequately sized should be replaced or lined to minimize infiltration issues that are currently being experience by the City.

Summary of Recommendations

- Identify key infill sites and prioritize vacant lots and those adjacent to the Historic Core.
- Reform zoning to allow for higher-density housing adjacent to the Historic Core.
- Pursue land acquisition and assembly to enable infill housing and mixed-use

development.

- Increase the weight limits on Thornton Street to accommodate trucks to and from the Texaco/Chevron Site and I-355.
- Install international or highly visible crosswalk markings and pedestrian countdown signals at the State Street intersections at 2nd Street and 6th Street .
- Utilize the 6th Street vehicle and pedestrian crossing of the CN railroad tracks to connect to the I & M trail and a new pedestrian bridge over the Canal.
- Implement the boulevard design on State Street and traffic calming at its intersections.
- Construct the shared bike lane on 2nd Street, connecting to State Street and the I & M Canal Trail.
- Implement the planned roadway cross sections on Hamilton Street.
- Implement the planned roadway cross sections on the District streets and eliminate the occasional head-in parking located in parkways along these streets.
- Connect all sidewalks in the area.
- Maintain access control along State Street including no mid-block median breaks for vehicular access.
- Make sure all new developments provide sidewalks and contribute to transportation funding.
- Create a ceremonial gateway into Downtown.
- Create landscape and streetscape materials palette.
- Create architectural design guidelines.
- Relocate overhead electrical and data utilities below ground when possible, particularly along State Street.
- Replace 4” dia. watermain along 3rd Street and 4th street with 8” dia. watermain
- Line or replace sanitary sewers adjacent to redevelopment areas.
- Extend ornamental lighting from 8th Street to 2nd Street to encourage infill development.
- Evaluate location of fire hydrants along State Street and add as required by redevelopment.

Development District 4: Canal District

Canal District and Location Map

Economic Development

Issues and Challenges

The I & M Canal is Lockport's primary historic attraction but it is under-utilized when compared to other U.S. canal communities. In order to generate visitor interest in Lockport, the I & M Canal must be significantly enhanced. From a market perspective, there is increased competition for tourist dollars from surrounding Canal communities such as Lemont and Lasalle which are actively working to enhance their lengths of canal through recreation and entertainment uses. Further impacting the feasibility of enhancing the Canal as a visitor attraction is that in its present state, the Historic Core does not support a business mix which complements the I & M Canal as a regional visitor attraction. Targeted business attraction and recruitment to the Downtown in the form of restaurants and additional historical interpretation will be necessary to enhance Lockport's overall visitor package.

Opportunities and Priorities

Enhancing the I & M Canal is a key priority and central to Lockport's development as a "destination" in greater Chicago. Canal District development and enhancement should focus upon three things: 1) enhancing the I & M Canal as a visitor attraction; 2) further development of the Canal District as a focus of downtown activities and events; 3) expanding family-friendly and educational attractions related to the I & M Canal and railroad.

Enhancing the I & M Canal as a visitor attraction should focus upon expanding recreational uses. If water levels in the Canal can be raised slightly, canoe and kayak rentals are an opportunity for Lockport to enhance activity within the Canal District.

Recreation and Open Space Opportunities

Festival and event programming by the City in the Canal District will be critical to generating interest in downtown Lockport and supporting downtown revitalization. Market analysis confirms regional households have a greater propensity than a typical US household to attend such events. Consistent with market preferences and characteristics

of other canal communities, it is recommended that the new Lincoln Landing public space and its adjacent parking lot at the South Public Landing be targeted for small festivals and events that highlight local history and recreation. The South Public Landing space is also an opportune site for a weekly farmer's market.

The educational appeal of the Canal and adjacent railroad should not be overlooked for area schools. There is considerable opportunity to continue the development of an educational package within the Canal District such as that now planned for the Lincoln Landing that highlights the Canal and railroad's importance to the development of Lockport. Historical interpretation within the Canal District can also be linked to interpretative signage in the River District.

Transportation

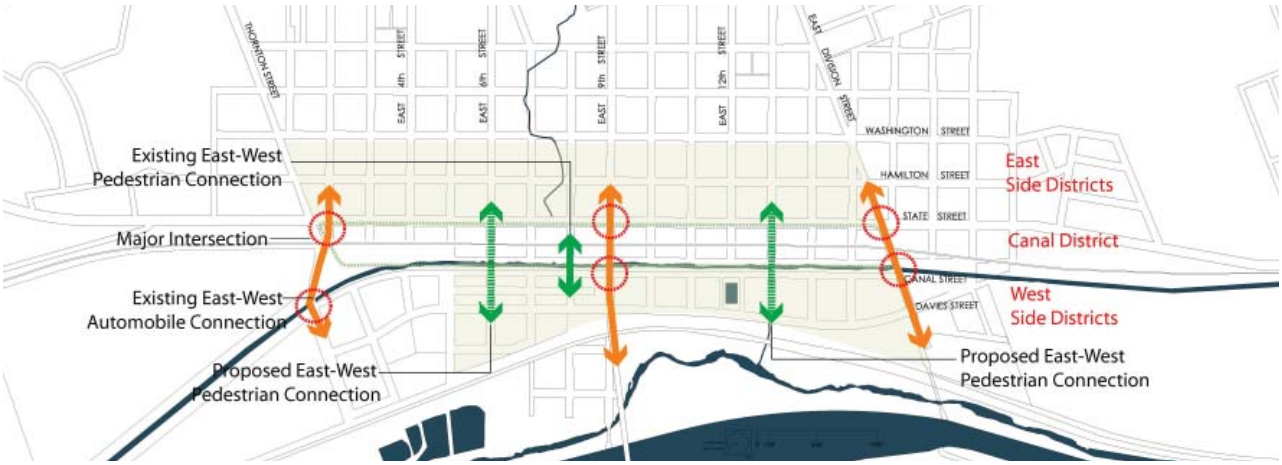
Issue and Challenges

The Gaylord Building, the Norton Building, and the historic Metra Station all reside in the Canal District. However, they are isolated due to location disadvantages caused by the CN tracks on the east, the I & M Canal on the west, and the heavily traveled 9th Street (IL 7) limiting north-south connectivity. Additionally, programming for these important uses puts a demand on parking for vehicles and buses.

Metra, Amtrak and freight trains which run on the CN line, often at high speeds, further diminish the connectivity and safety of the area. This line and the BNSF lines are heavily traveled and horns are sounded throughout the day and evening due to Federal Rail Administration rules. These horns are necessary for the safety of the community, yet have a negative impact on the surrounding environment. It is important for Lockport to begin the process of establishing a quiet zone in the City of Lockport where the sounding of horns is not necessary due to safety improvements at all at-grade rail crossings in the community. It also demands programming for good pedestrian and bicycle connectivity between these uses and the surrounding retail and recreational uses.

Opportunities and Priorities

The Canal District is the critical connective component between the Historic District and the neighborhoods and recreational amenities to the west. There is opportunity to connect the Historic, Northeast and Southeast Districts across the I & M Canal to the new and existing developments to the west for vehicles, pedestrians, and bicyclists. This will be accomplished with new pedestrian bridges over the I & M Canal, safe and highly visible pedestrian crossings of 9th Street and other pedestrian connectivity.



East - West Connections

Urban Design

Issues and challenges

The Canal District is of significant importance in downtown Lockport. The I & M Canal also serves as a physical barrier between east and west downtown districts. There are few connections for pedestrians or automobiles across the Canal. The Canadian National Railway Further separates the Canal District from other east districts. This physical separation and lack of connections reduces the existing West Side neighborhood's connection with downtown and makes it less appealing to potential residents. The disparity between east and west sides of the canal has resulted in significantly different land use patterns. The west side of the canal is generally challenged by incompatible land uses such as manufacturing and light industry mixed with low-density residential. The challenges of accessibility, connection, and development opportunity will have to be overcome to attract new development on the west side of the canal and for the Downtown to be viewed as a whole.

Organization of the Canal District and leveraging existing assets presents a challenge to the cohesiveness of Downtown. Lack of formal street structure and limited access presents challenges to the Canal District. Canal and Commerce Streets are primarily used and viewed as the 'back' of the district. These 'service corridors run next to the Canal and offer the best views of it. Many cultural assets are located in this district and access to these attractions is a challenge.

Opportunities and Priorities

The Canal District acts as a link between the west and east sides of the I & M Canal. New east-west links would enhance the connection between residential districts to the east and residential and recreational districts to the west. An opportunity exists to

create an active space in the Canal District to support downtown businesses. Existing warehouse/industrial uses along the Canal should be relocated to the Texaco/Chevron site to allow for attractive, heavily landscaped surface parking or natural buffer areas. A regional trail system runs through the Canal District and an opportunity exists to celebrate this trail through continued development of its surrounding natural environment as both an educational tool and tourism magnet. The proposed Green Loop trail system will connect existing features such as the Sanitary and Ship Canal and Deep Run Creek to the I & M Canal, and providing accessible shorelines and banks to these features would encourage trail use and user appreciation of their assets.

Infrastructure

Issues and Challenges

The existing utility infrastructure supports existing uses along Commerce Street south of 7th street. No watermains or sanitary sewers exist on Commerce Street north of 7th Street, nor between the Canadian National Railway tracks and the Canal.

Opportunities and Priorities

Utilities within this District may require extension to support new infill development and additional amenities along the I & M Canal Trail. Watermains, sanitary sewers and electrical lines will require extension. The overhead electrical and data lines along Commerce Street should be relocated underground to provide aesthetic enhancements and support the transition of this corridor from sole service access to service and pedestrian access to a link activities of this district to the Historic Core.

The existing sanitary sewer, although adequately sized, should be replaced or lined to minimize infiltration issues that are currently being experience by the City.

East - Existing Commerce Street and Proposed Commerce Street Character

Summary of Recommendations

- Enhance the Canal Corridor through new native planting and management along its banks and shoreline.
- Upgrade the Canal Trail pavement and provide lighting to expand evening activity.
- Add to the existing historical interpretation along the Canal.
- Focus upon expanding family and school-friendly programming within the Canal District.
- Build upon the new Lincoln Landing public space and its educational program and target it for small festivals and events that highlight local history and recreation.
- Develop a farmer's market at the South Public Landing space.
- Enhance pedestrian connections from the Canal District to residential neighborhoods and the Historic Core.
- Reconstruct the intersection of 9th and Canal Streets for truck turning movements
- Re-construct the intersection of Canal and Division Streets to accommodate truck turns
- Construct new pedestrian bridges over the I & M Canal at 6th Street and 13th Street
- Design Canal Street to accommodate bus parking to serve the Gaylord and Norton Buildings
- Utilize the 6th Street vehicle and pedestrian crossing of the CN railroad tracks to connect to the I & M trail and a new pedestrian bridge over the Canal.
- Work with the Federal Rail Administration to enact a Quiet Zone through downtown Lockport either by installing four quadrant gates at all crossings or wayside horns.
- Work to obtain Operation Lifesaver funds for the education of safety at the rail crossings.
- Commerce Street should be re-developed as a pedestrian friendly area with new pavement, lighting and accent wall. It should also retain its service functions to buildings on State Street.
- Consider Canal Street as by-pass route when State Street is utilized for fairs and festivals.
- Provide accessible points along Canal banks for pedestrians.
- Relocate overhead electrical and data utilities along Commerce Street below ground where possible.
- Extend utilities as necessary to support recreational activities along the I & M Canal Trail.
- Extend water and sewer along Commerce Street north of 7th Street to support infill and redevelopment.
- Line or replace sanitary sewer adjacent to redevelopment areas.

Development District 5: Texaco/Chevron Site

Texaco/Chevron Site and Location Map

Economic Development

Issues and Challenges

The Texaco/Chevron site has certain obligations and use restrictions detailed within the current annexation agreement for this property. Any recommendations that follow are not binding and/or required as the annexation agreement is a legal document which outlines the future development of this site and any offsite improvements.

There are considerable redevelopment opportunities of the Texaco/Chevron Site, yet also challenges for successful implementation. Although redevelopment of the Texaco/Chevron site is critical to long-term Lockport business stability, how this occurs will impact the adjacent residential neighborhood property values and their quality of life. New development will need to be sensitive to the existing residential neighborhood through components such as landscape buffers, cut-off lighting, and proper placement of dock facilities. From an economic development perspective, a major commercial redevelopment that contributes to the existing adjacent residential neighborhood's decline is likely to adversely impact prospects for downtown Lockport redevelopment overall. West District residential neighborhoods serve as a physical connection between the Canal and River Districts, two areas targeted for enhanced visitation and activity. Should these residential areas decline following the Texaco/Chevron Site redevelopment, it may dissuade use of the River District's natural assets.

Opportunities and Priorities

The redevelopment is a considerable opportunity to achieve three things for the City and its businesses: 1) create new jobs; 2) generate additional tax revenue; and 3) significantly broaden the daytime consumer base for the Historic and Northeast Districts.

The Texaco Chevron site redevelopment is an opportunity to significantly boost property tax revenues as well as local restaurant and retail sales—the local purchases made by the new larger work force at the Texaco/Chevron site will be critical to enhancing local business stability. These additional revenues may then be targeted for reinvestment back into the Historic District in the form of physical upkeep and marketing.

Transportation

Opportunities and Priorities

Daviess Street provides an opportunity to connect the Texaco/Chevron Site and west neighborhoods for vehicles, pedestrians and bicyclists.

Urban Design

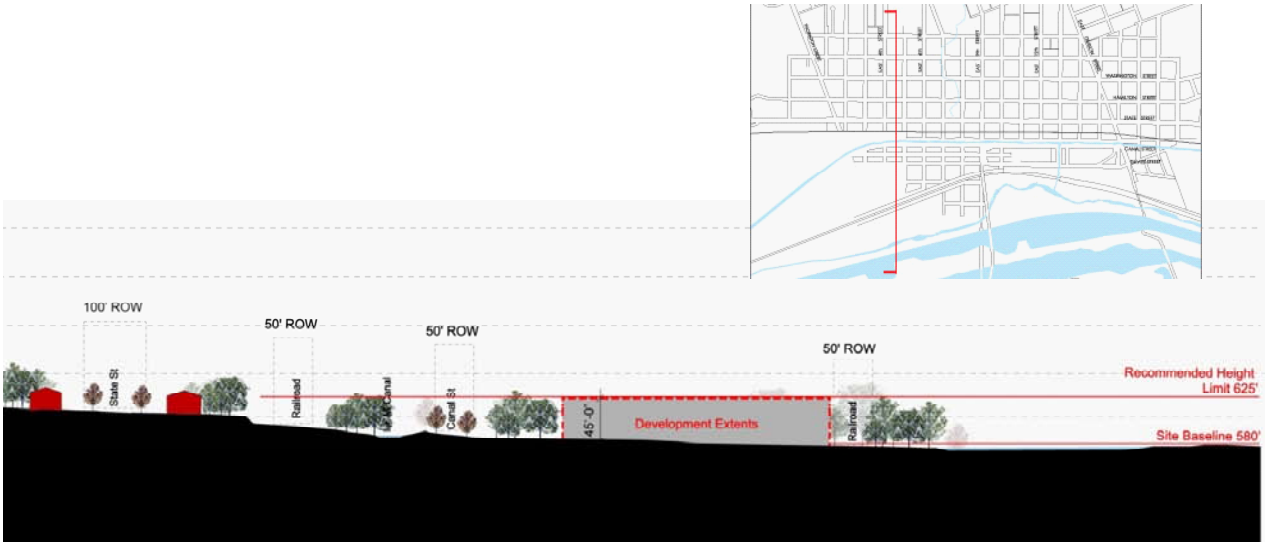
Issues and Challenges

The Texaco/Chevron Site is challenged by significant truck traffic and industrial land uses. While significantly reduced from past use, this District's identity is based on manufacturing and industry. Compatibility with other, less intense land uses is limited and therefore a challenge to integrated development. The development character of this District is of a different character than surrounding Districts. The challenges to this District include:

- Connection to adjacent Districts coupled with traffic mitigation and separate vehicular/truck and pedestrian ways.
- Identification of sensitive and positive relationships between the existing adjacent residential neighborhood which developed next to the former refinery on the site and the new manufacturing/light industrial areas of the district.
- Analysis of existing truck traffic on State Street and access to the site.

Opportunities and Priorities

The Texaco/Chevron Site offers potential for concentrated light manufacturing and industrial uses. Among the many assets this large site offers are ease of access, site area and location. Regulation of truck circulation entering and leaving the site presents an opportunity for more efficient street organization.



Site Section: Demonstrates how new industrial buildings can be up to 45' tall and remain under State Street sight lines and tree canopies along the canal.

Stage 1: Maintain existing access at 2nd Street. Establish alternate access (no trucks - employees only) via Daviess Street. Canal Street should serve site workers and local traffic only.

Stage 2: Establish new fly-over at Thornton, only then can the city consider utilizing 2nd Street as an at-grade crossing for local canal access.



Light Industrial Character Images

Infrastructure

Issues and Challenges

Sanitary sewer, watermain and storm sewer improvements will be required for the planned light industrial redevelopment. Since some of this area may be located within the floodplain, any redevelopment will require floodplain evaluation and permitting.

Opportunities and Priorities

The priorities for this should be focused on the utilities required for the redevelopment of the Texaco/Chevron Site. Regional floodplain studies and mitigation should be evaluated for this development. Regional floodplain improvements may also reduce the number of structures in the floodplain within this District.

The existing sanitary sewer although adequately sized should be replaced or lined to minimize infiltration issues that are currently being experience by the City.

Summary of Recommendations

- The Texaco/Chevron site has certain obligations and use restrictions detailed within the current annexation agreement for this property. Any recommendations that follow are not binding and/or required as the annexation agreement is a legal document which outlines the future development of this site and any offsite improvements.
- Utilize additional tax revenues generated by the Texaco/Chevron Site redevelopment towards the implementation of the Downtown Master Plan Priority Projects as shown in the Implementation Plan section of the report.
- Connect Daviess Street under the 9th Street bridge to the West Side.
- Construct Canal Street to a full standard.
- Construct a multi-purpose off-road path on 2nd Street and Daviess Street.
- Construct sidewalks on streets in the new development.
- It is recommended that land uses on the Texaco/Chevron Site, consist of business-campus and small-scale manufacturing land uses.
- Encourage the relocation of existing manufacturing/business uses, south of 9th Street/ Route 7, to the southern portion of Texaco/Chevron Site.
- Daviess Street should be extended through site to achieve an alternate access route parallel to Canal Street.
- Establish a continuous landscape setback along south edge of site, in the right of way of abandoned 5th Street.
- Upgrade and improve Canal Street to a two-lane (one lane each direction) cross-section.
- Establish a continuous landscape setback to Canal Street and the I & M Canal, along the Texaco/Chevron site.
- Incorporate best practices in stormwater management. Link Texaco/Chevron Site stormwater management plan to a larger stormwater treatment approach for the West Side District.
- Establish a long-term truck management and site access plan, including:

  Stage 1: Maintain existing access at 2nd Street. Establish alternate access (no trucks- employees only) via Daviess Street. Canal Street should serve site workers and local traffic only.

  Stage 2: Establish new fly-over at Thornton, only then can the City consider utilizing 2nd Street as an at-grade crossing for local canal access.

- Extend watermain and sewers as required by the light industrial redevelopment.
- Line or replace sanitary sewer adjacent to redevelopment areas. Although the size of the existing mains supports the development, the City experiences significant infiltration into the system which could be resolved by lining or replacing the existing mains.
- Study floodplain conditions to locate new structures outside of the floodplain to the extent required.

Development District 6: West Side

West Side District and Location Map

Economic Development

Issues and Challenges

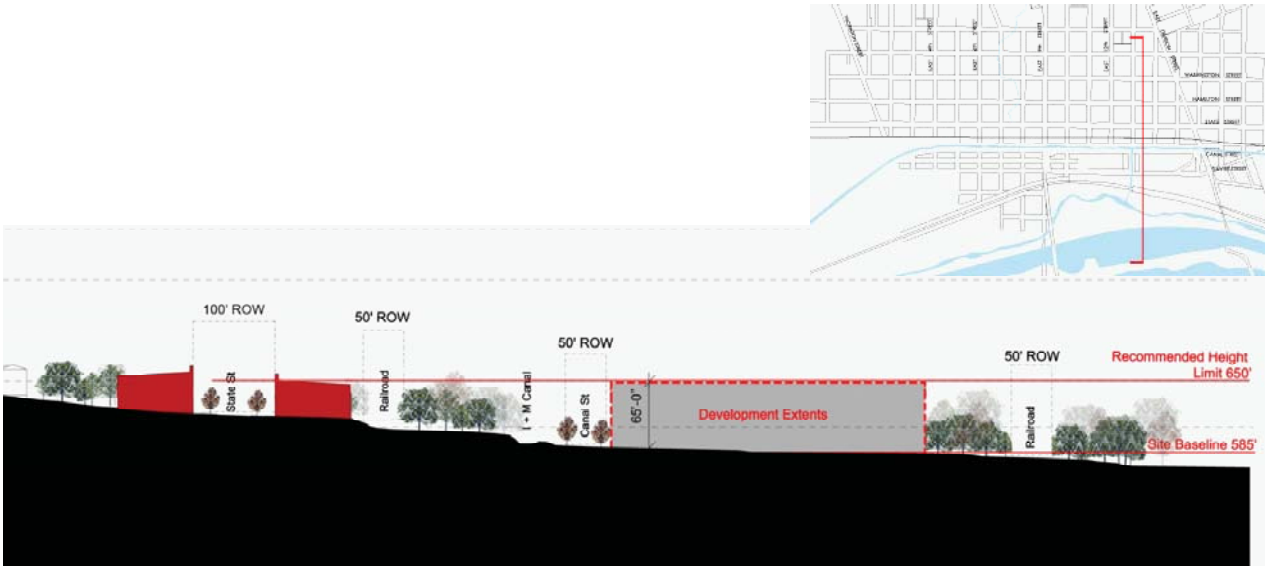
One of the fundamental characteristics of downtown residential development is significantly higher housing unit densities than in surrounding areas. Overall, the West Side District is underutilized as a critical demand generator for the Downtown in the form of urban housing. Although housing development in the West Side District could capitalize upon numerous assets, there has been no new housing development in and around downtown Lockport in recent years. This is in stark contrast with other downtown communities (Tinley Park, Lemont) where there has been considerable urban housing development in and adjacent to their downtown cores. From a market perspective, these communities are advantaged over downtown Lockport in terms of urban housing development as their downtowns have developed the supportive business and entertainment mix critical to generating demand for residential units. An additional challenge related to new housing development around downtown Lockport relates to an industry-wide national housing decline—market conditions may necessitate incentives on the part of the City to facilitate new housing development to the extent required.



Single Family, Townhouse, and Multi-Family Housing Examples

Opportunities and Priorities

Redevelopment in the West Side District is critical to the economic stability of downtown Lockport. New housing development in the West Side District should prioritize three things: connecting these new residential units to downtown Lockport and the Metra station through continuous sidewalks; capitalize upon views of the I & M Canal and Des Plaines River Valley; and connecting these developments to trails and other recreational amenities in the area. Locating a developer with prior experience working in urban housing around a downtown core is another priority for West Side District redevelopment.



Site Section: Demonstrates how new residential development can be up to 65' tall and still not rise above existing buildings on State Street.

Transportation

Issue and Challenges

The West Side neighborhood currently houses residential and industrial lands uses. It is isolated due to the 9th Street Bridge, the I & M Canal, and the BNSF railroad tracks. This area also suffers from the train horn noise on both the CN and BNSF rail lines.

Opportunities and Priorities

To accommodate the additional vehicles generated by new residential development in the West Side District, the intersections of Division Street and Canal Street and Division Street and Daviess Street will require upgrading. These intersections should also serve pedestrians and bicyclists. Daviess Street provides an opportunity to connect the neighborhoods for vehicles, pedestrians and bicyclists below the traffic of the 9th Street Bridge. Daviess Street should tie directly into the neighborhood to the south. The bike connection from 13th Street, should extend west through the District and tie into the River District. Connectivity to the Metra station is important and will be provided by pedestrian crossings at 15th and 13th Streets.

Urban Design

Issues and Challenges

The West Side neighborhood is an historically ethnic neighborhood, rich in cultural history. These features include small-scale residential neighborhoods with single-family homes on large lots, regular block organization and street scale appropriate for slow-moving traffic. It is an internally-focused neighborhood. A challenge is to enhance a neighborhood which was developed simultaneously with adjacent industrial uses. This development occurred together historically at a time when the industrial uses along the canal were significantly more intense than presently anticipated. Reduced connections across the canal to eastern neighborhoods reduce the appeal of the West Side district for increased residential development. Disconnected east-west street framework reduces opportunities for connection to the Canal and Division Street.

Opportunities and Priorities

Opportunities exist for greater connection to the Metra station and districts east of the Canal, connections the River Districts and celebration of historic natural land features. Increasing interest in downtown development, additional units of housing, and reduced economical benefit from industry provides an opportunity for relocation of underutilized industrial and manufacturing land uses. Regular access and circulation routes connect the West Side District residential areas to East Districts. Natural features in or near the District add amenity and interest.

New West Side

West Side Hydraulic Basin Character

Infrastructure

Issues and Challenges

The West Side District, planned to include a large scale Transit Oriented Development will have challenges related to floodplains as the areas closest to the railroad are within the existing floodplain. Any redevelopment of this area will require the floodplain permitting and possibly compensatory storage for any fill placed within the flood plain. Sanitary sewers within this District are sized adequately to support the planned TOD development. There is little existing lighting within the area and electrical and data service are provided overhead on wood poles.

Opportunities and Priorities

Sanitary sewers appear to be adequate to support a relatively dense mixed use development, however the watermain may require improvements to provide the necessary fire flows.

As with any substantial redevelopment, the electrical and data service poles will likely require relocation and should be placed underground if possible to enhance the aesthetics of the area. Ornamental Lighting should also be considered to tie this area to the downtown.

Detention for new development within this district would be shallow due to the adjacent floodplain and to allow stormwater to gravity flow to the river. Green spaces within the new residential development including the Hydraulic Basin will likely be used for detention and other stormwater management strategies.

Sidewalk and roadway improvements should be considered to encourage redevelopment or improvement of some of the single and multi-family residential properties within this district. Consolidation of overhead utilities along rear yards would also improve the aesthetics of the area.

The existing sanitary sewer although adequately sized should be replaced or lined to minimize infiltration issues that are currently being experienced by the City.

Summary of Recommendations

- Prioritize developers with prior experience in urban-style housing.
- Allow building height to maximize views of the Des Plaines River Valley and I & M Canal.
- Connect new housing developments to Lockport's Historic Core.
- Explore incentives to facilitate housing redevelopment including density bonuses; funding for infrastructure; and direct incentive payments to developers, tied to the achievement of long-term property tax generation.

- Connect Daviess Street under 9th Street to the Texaco/Chevron Site.
- Connect Daviess Street to the neighborhood to the south.
- Improve the intersections of Division Street/Canal Street and Division Street/Daviess Street for automobiles, pedestrians and bikes.
- Construct Canal Street to a full residential standard to allow one lane of traffic in each direction, parking and additional parking areas for buses.
- Stripe designated bike paths with signage within the neighborhood and tie into the proposed path at 10th Street and the 13th Street pedestrian bridge.
- Construct sidewalks on each existing street in the neighborhood and all new developments.
- Sidewalk and bike connectivity should be constructed to tie into the River District.
- Introduce new building typologies to the West Side District that increase density in the district.
- Townhomes up to three stories and multi-family buildings up to five stories contribute additional housing units to the District and provide views to both the river and Canal. These heights respond to the changing elevation of the land between State Street and the Des Plaines River floodplain.
- Create a connection along Daviess Street to Division Street
- Regularize block geometries to facilitate ease of access through the District and enhance pedestrian experience within it.
- Provide a green buffer on both sides of the BNSF Railway tracks as a precautionary safety measure and noise reduction element.
- Relocate scattered site light industrial and manufacturing land uses to Texaco/Chevron Site.
- Introduce greenspace and express the historic hydraulic basin within the residential neighborhood. Utilize these features for detention and stormwater management.
- Integrate residential land uses.
- Introduce a pedestrian walkway along 13th Avenue to connect to the Metra station.
- Maintain existing sanitary sewers.
- Extend and increase the size of the watermain as required by density of the proposed TOD redevelopment.
- Line or replace sanitary sewer adjacent to redevelopment areas. Although the size of the existing mains supports the development, the City experiences significant infiltration into the system which could be resolved by lining or replacing the existing mains.
- Relocated overhead electrical and data line to underground.
- Improve roadway and add pedestrian level lighting. Consider ornamental lighting to tie redevelopment to downtown.

Development District 7: River District

River District and Location Map

Economic Development

Issues and Challenges

Although located outside of the Downtown proper, Lockport's River District and its trails provide a key opportunity to appeal to regional households and develop this area as a visitor attraction. Several challenges exist, however, in developing and marketing this key asset. In order to develop this recreational asset as a regional draw, the River District and its trails are going to have to be well highlighted through signage and be physically connected to the Historic District and nearby natural areas. Access is another consideration in the River District should the area be maximized as a visitor attraction—presently, the area lacks basic amenities such as parking, bike racks and other elements to enhance its accessibility for visitors.

There are also regional competitive issues when developing Lockport's River District and its trails as a visitor attraction. Other communities along the River/Canal system may incorporate family-oriented recreational components, and may compete for downtown Lockport's targeted household segments. Over the long-run, Lockport may want to consider working with neighboring communities along its waterways to plan events as well as visitor attractions.

Opportunities and Priorities

Tapestry analysis has concluded that Lockport's primary and secondary market households are extremely active, participating in a wide-range of recreational activities including jogging, biking, boating and backpacking. In addition to generating visitation from these households, there is also opportunity to generate visitation from local schools—several downtown museums presently rely upon student visitation from regional classrooms. In this regard, development of the River District should prioritize 1) year-round recreational uses and activities; 2) dedicated areas for regular family-oriented events and activities; 3) clear signage from the Downtown highlighting the River District and its activities; and 4) signage highlighting local birds, plant species and other components with an educational focus.



Wetland Recreation

Transportation

Issue and Challenges

Access to the River District by auto, bicycle and by foot is difficult due to the BNSF railroad tracks that divide it and the districts to the east. This area is also limited by its status as a floodplain. Establishing boating recreation on the Sanitary and Ship appears prohibitive due to the amount of barge traffic on the water. This issue should be further explored as there are current plans to reconstruct the walls on both sides of the Sanitary and Ship Canal.

Opportunities and Priorities

The opportunities for the River District are recreational. The land is beautiful and provides a fantastic opportunity for the multi-purpose loop trail to run throughout the River District. This loop trail will provide summertime walking/hiking/biking opportunities and in the wintertime cross-county skiing. Viewing access to the Sanitary and Ship Canal will be provided with access across and to repaired Seven Arches Bridge.

Summary of Recommendations

- Enhance physical access from the River District to the Historic District, the nearby Lockport Prairie East, and Dellwood Park West.
- Add signage in Downtown Lockport highlighting the recreational opportunities within the River District and the nearby natural areas of the Heritage Park Project.
- Enhance trails and other open areas as a visitor draw.
- Develop activities and events targeted towards area families for incorporation within the River District and the nearby natural areas of the Heritage Park Project.
- Incorporate educational signage within the River District highlighting local bird species and plant life as an attraction for local schools.
- Acquire an easement along the Texaco Chevron site to use as a pedestrian path that connects residential neighborhoods north of Canal Street to the River District.
- Provide a lighted boardwalk along the Sanitary and Ship Canal to draw visitors to this attraction and expand evening activity.
- Work with Lockport Township Park District to build the Loop Trail.
- Connect the Loop Trail to 9th Street.
- Repair the Seven Arches Bridge for pedestrian use.
- Study the feasibility of a shuttle bus system that would travel from downtown to the Seven Arches Bridge.
- Work with the Metropolitan Water Reclamation District, the Army Corp of Engineers and the Coast Guard to further study boating or other recreational opportunities on the Sanitary and Ship Canal.

Market Planning

Market Positioning

Building upon existing downtown assets, market conditions and a need for strategic demand generators within the Downtown, market position should emphasize downtown Lockport's history and its potential role as a base camp for outdoor recreation along its four north-south waterways (I & M Canal, Deep Run Creek, Sanitary and Ship Canal, and Des Plaines River). Development of recreational assets will benefit both local and regional populations and while they are outside of the downtown core, these recreational areas will reinforce downtown economic stability and revitalization. ERA also recommends prioritizing sustainable planning and development within the Downtown as a means of reinforcing downtown Lockport's outdoor recreational focus.

Priorities

In the Downtown proper, primary emphasis should be placed upon upgrading and maintaining the I & M Canal, its paths and their access for everyday use, while supporting a mix of year-round outdoor activities beyond the downtown core (biking, birding, hiking, boating, ice skating, and cross country skiing). Accompanying this, further development of historical interpretation in the form of plaques and statues within the Historic and Canal Districts will help to create and maintain the image and story of the town center as "someplace special". This should generate additional downtown activity and support important downtown programming including walking tours, festivals and events. ERA also recommends further development of historical/cultural experiences in the Downtown with 1) expanded programming and marketing of the existing museums and Lincoln Landing; 2) a small history-themed children's museum with local twists such as a water table featuring the topography of the Des Plaines River Valley); and 3) expansion of the Illinois State Museum's space programming in the historic structures of the Downtown. Festival and event programming by the City will be critical to generating interest in downtown Lockport and supporting downtown revitalization. Consistent with market preferences and characteristics of other canal communities, ERA recommends the Lincoln Landing and its adjacent parking lot at the former location of the South Public Landing initially be targeted for festivals and events that highlight local history, recreation and businesses,

As these events grow in popularity and reinforce downtown redevelopment, an overlay district should be identified for community festivals and events that incorporates additional downtown area including sidewalks and entire streets such as State Street.

Downtown Business Mix

Development of downtown's historical and recreational thematic focus will create a flow from local and regional populations that will, over time, generate demand for further dining, entertainment, and specialty retail in Lockport's commercial core. Capitalizing upon regional housing growth and consumer preferences, primary downtown Lockport retail clusters should focus upon housewares, recreational goods and eventually gifts (including, but not limited to, Hallmark-type stores). Additionally, ERA recommends exploring relocation of an existing Lockport hardware store to the downtown core. Experience has shown that some types of local retailers such as a hardware store can prosper despite big box retailers like Target and Home Depot located nearby. Selection and service are the typical discriminating factors allowing these retailers to prosper in a small downtown.

Two types of restaurants should be targeted for downtown Lockport—1) family-oriented restaurants serving breakfast, lunch and dinner and 2) more upscale restaurants focusing upon dinner and evening entertainment. Priority should be placed upon maximizing views from restaurants to the Canal and Des Plaines River Valley, either through establishments that face the Canal and the Des Plaines River Valley (possibly on a back deck), or through exterior roof decks. A family entertainment center featuring casual dining (burgers and pizza) with mini-golf, an arcade, party rooms and soft play (for young children) is a possibility if train-themed and developed within sight of the train tracks. Such a facility would have year-round appeal as a destination after a bike ride or for indoor winter activity. An alliance with the existing bowling center should be considered. Over time, other entertainment venues in the Downtown such as billiards and a movie theater may follow as the Downtown's reputation as an activity center evolves.

Consumer Markets

Target consumer markets for downtown Lockport include area families with children seeking outdoor and learning-based activities and regional empty-nest populations seeking a full day of recreational and cultural activities, shopping, and evening entertainment. The result is a downtown mix of daytime and evening recreational, shopping, entertainment, and cultural activities attractive for potential multi-family housing and office development.

Sustainable Development

The City's promotion of green infrastructure and building practices for new development will reinforce downtown Lockport's recreational market focus while positively resonating with target consumer markets. In recent years, ERA notes that municipal governments, builders, consumers, and advocacy groups have become interested in building practices that emphasize energy conservation, water conservation, reduced emissions, better indoor air quality, and more environmentally-friendly building materials. The most

prevalent standard is LEED (Leadership in Energy and Environmental Design), issued by the U.S. Green Building Council (USGBC) which at its core, measures the environmental performance of a building project over its lifetime. The USGBC is a non-profit organization that issues standards for green building and certifies projects based on their adherence to the LEED standards.

There are several benefits to be gained by the City and developers alike by incorporating LEED principles in downtown Lockport building and planning. From a financial perspective, although developers pay more in design and construction to meet LEED standards, over a period of years, there are quantifiable, sustained savings in energy costs. These energy cost savings are marketable to homeowners and could benefit the City if incorporated into public buildings. Green development can also be beneficial to the City as LEED standards establish clear goals around which financial and administrative incentives can be structured. Development incentives by the City, particularly during a time of overall housing market decline, will be important to encourage downtown housing development.

In addition to financial savings and incentives, there are also secondary benefits to green development that are more difficult to quantify. These benefits derive from expanded marketing opportunities where green development becomes another downtown element around which to focus special events and festivals. Additionally, from a market perspective, consumers likely to visit downtown Lockport for its recreation are also likely to appreciate a City that is pursuing responsible building and development practices.

Supportable Space Estimates

Based upon historical trends and projected future growth in the regional market, ERA has identified supportable space in square feet for key real estate uses. Projections have been based upon a 5-year phasing schedule intended to provide decision-makers a regular and realistic time frame for development within downtown Lockport. It should be noted that as development progresses and overall market conditions evolve, an element of flexibility regarding downtown development should be maintained.

Residential

Projected demand for residential space within downtown Lockport has been based on the following assumptions:

- Urban-focused households will continue to represent roughly 18 percent of total Lockport households
- None of the townhomes or condominium units currently under construction or pending in Lockport would suit the needs of new urban-lifestyle households
- Downtown households as a share of Lockport's total will decline over the next four years as suburban style development will continue to outpace urban-style multifamily development in the near-term,

The following table outlines projected demand for residential units within downtown Lockport. Over the next five years, downtown demand is estimated between 40 and 50 units—assuming average unit sizes of roughly 1,100 square feet, this translates into roughly 44,000 to 55,000 square feet of living space in the form of condominiums and townhomes. Note that as additional cultural and recreational amenities are developed within downtown Lockport, ERA anticipates downtown housing demand to accelerate. In total, over the next twenty-five years, projected demand for additional downtown housing is estimated at between 320 and 360 units, an approximate 10 percent increase over present downtown housing inventory.

Table 1: Projected Residential Demand

Phasing (Year)	2008-2013	2014-2019	2020-2025	2026-2033	**Total**
Housing Unit Demand (low)	40	60	70	150	**320**
Housing Unit Demand (high)	50	70	80	160	**360**
Estimated Square Feet (low)	44,000	66,000	77,000	165,000	**352,000**
Estimated Square Feet (high)	55,000	77,000	88,000	176,000	**396,000**

Key elements to consider in the development of downtown housing include:

- Siting the units in close proximity to the Metra Station
- Capitalizing upon views of the Canal and the Des Plaines Valley beyond
- Linkages to trail systems and other recreational amenities

Office

Projected demand for office space in downtown Lockport is based upon the following assumptions:

- Each new office job in Lockport will require 200 to 275 square feet per employee
- Office sector employment Lockport-wide will continue to grow at an annualized rate of 5.3 percent
- Downtown Lockport will remain at roughly 14 percent of Lockport-wide office inventory over the next three years
- Demand for offices in downtown Lockport will increase over the long-term as downtown recreational and cultural options expand

Projected demand for additional downtown office space over the next twenty-five years is estimated at 36,300 to 49,900 square feet, roughly doubling present downtown inventory. Ideally, these units would be placed above storefronts, and sited within walking distance of local restaurants and other downtown businesses. Based upon market conditions and downtown characteristics, likely office users would include realtors, financial advisors, design-based services, and medical offices - either dental or other specialty practices like pediatricians who might be interested in locating in a family-friendly downtown.

Table 2: Projected Office Space Demand

	2008-2013	2014-2019	2020-2025	2026-2033	**Total**
Downtown Office Space (low)	5,300	6,500	8,800	15,700	**36,300**
Downtown Office Space (high)	7,200	9,000	12,100	21,600	**49,900**

Key elements to consider in terms of office development include:

- Parking accessibility
- Space flexibility
- Linkages to surrounding businesses and services

Retail/Restaurants

The following assumptions have formed the basis of projections for additional retail/ restaurant demand in square feet within downtown Lockport:

- Supportable retail/restaurant space estimates assume a realistic downtown capture of 0.7 percent of Will County retail sales growth
- Assuming new retailers in Lockport fill existing countywide retail gaps, local residents will shop in the Downtown
- Space estimates assume retail sales per square foot of between $200 and $250, and $275 to $300 for restaurants

Projected future demand for additional retail and restaurant space in downtown Lockport is highlighted in the following table

Table 3: Projected Retail/Restaurant Demand

	2008-2013	2014-2019	2020-2025	2026-2033	**Total**
Downtown Retail/Rest. (low)	20,200	14,400	16,700	26,600	**78,000**
Downtown Retail/Rest. (high)	24,500	17,100	20,300	32,300	**94,200**

Over the next five years, ERA estimates a demand sufficient to support an additional 20,200 to 24,500 square feet of retail and restaurant space. By 2033, demand is projected to support a total of 78,000 to 94,200 square feet of additional retail and restaurant space, a 40 to 50 percent increase over present downtown inventory. It is important to note visibility is key to retail success New retail and restaurant development should be sited within walking distance of outdoor recreation as well as be visible from key public gathering spaces.

Elements critical to downtown retail development include:

- Parking accessibility
- Pedestrian accessibility across State Street
- Streetscape and other physical enhancements
- Maximizing I & M Canal and Des Plaines River Valley views
- Providing space for private and public events

Key Programmatic Elements

Downtown Lockport redevelopment is focused upon building the Downtown's "destination" status within the region and expanding its visitor market. In order to provide a comprehensive package of downtown visitor attractions, ERA has identified key downtown programmatic elements focused upon: 1) appealing to families and children; 2) extending the length of stay for downtown visitors; and 3) enhancing the Canal's prominence in the downtown. These key programmatic elements build upon the Downtown's current strengths as well as serving to generate demand for additional business and housing investment in downtown Lockport:

Enhanced Streetscape for State Street

In order to manage traffic on State Street and provide an enhanced pedestrian experience to support retail, ERA recommends an enhanced streetscape with less traffic, easier pedestrian crossings, and sidewalks with trees, planters, and site furniture.

The Library

Currently located in the Downtown, the Library is a critical activity generator. Every effort should be made to retain the Library in the Downtown as the person-trips it generates help to animate the downtown and contribute to business stability as its patrons are also likely to visit the nearby retailers, coffee shops, museums, and other downtown venues.

Downtown Market
Permanent markets can often evolve into strong tourist destinations. A seasonal, weekly farmers market should be developed that could be used for other year-round activities and events supportive of the local business community including a "Taste of Lockport".

I & M Canal Recreational/Cultural Area
In an effort to draw more immediate Lockport residents to Lockport's downtown, ERA recommends a dedicated recreational/cultural area where site furniture and interpretive signage supports casual use or organized events.

Bike and Boat Rental Facilities
Along the I & M Canal, bike and boat rentals are key plan components to generating downtown traffic on weekends and providing downtown activities that appeal to families.

Exterior Stage/Amphitheater in Valley
Market analysis suggests Lockport and regional residents have a strong preference for attending events. Capitalizing upon this preference, ERA recommends an outdoor stage with community theater programming.

Outdoor Ice Skating Rink
Skating is another viable winter activity for the Downtown. ERA recommends this rink be available for pleasure skating or for organized downtown events.

Train Viewing Platform and Rail Themed Restaurant
As a draw for families with children and other train enthusiasts, ERA recommends an elevated area around the Lincoln Landing to view trains passing through downtown Lockport. Building upon this could be signage and kiosks with information highlighting rail and its significance to the development of downtown Lockport.

Family Entertainment Center
A family entertainment center featuring casual dining, mini-golf, an arcade, party rooms, and activities appropriate for young children would be a possible downtown use if developed within sight of the train tracks. Such a facility would have year-round appeal as the destination after a bike ride or for indoor winter activity. An alliance with the existing bowling center should also be considered.

Small Children's Museum—Discussions with local museum directors revealed a significant share of annual visitation is from local schools. Building upon this market, ERA recommends a children's museum with local connections that include a water table featuring the topography of the Des Plaines River Valley. This museum would ultimately contribute to a growing cluster of visitor attractions for families in downtown Lockport.

Future Considerations

The aforementioned programmatic elements for downtown Lockport will ultimately act as demand generators for additional music venues, recreational concessions and impulse retail development in downtown Lockport. Specifically, the following facilities will follow:

Downtown Movie Theater

Although downtown activity levels, population density, and supporting businesses (restaurants) are not yet adequate to support a movie theater in downtown Lockport, the aforementioned programmatic elements should eventually generate the demand necessary to support a downtown movie theater.

Evening Entertainment Venues

Enhanced activity levels in downtown Lockport will eventually lead to demand for additional evening entertainment venues in the form of billiards, bars and potentially small dinner theater and other performance venues. These businesses will be crucial to expanding downtown hours of operation as well as generating demand for housing in downtown Lockport.

Additional Housing

ERA estimates a demand of 40 to 50 additional housing units in downtown Lockport over the next five years. Although the city of Lockport is projected to grow considerably over the coming years, additional demand for housing beyond this number is likely unrealistic until the mix and array of downtown businesses and activities increase. As the Downtown's presence in the region grows through recreational activities, events, and restaurants, demand for housing in downtown Lockport should also grow.

Additional Office Space

Demand for additional office space over the next five years is estimated at roughly 5,300 to 7,200 square feet. However, as downtown activity levels increase and more restaurants locate within the Downtown, downtown Lockport will become increasingly attractive as an office location. Additional downtown office uses will be important for generating daytime downtown activity as well as generating additional retail sales.

Catalyst Projects

Programmatic elements including expanded retail, a family entertainment center and a children's museum are unlikely for downtown Lockport without strategic projects intended to stimulate market interest in downtown Lockport. Catalyst projects are to be implemented in the near-term by the City and focus primarily on physical and accessibility enhancements. These projects have been summarized below.

Streetscape Improvements
Physical enhancements including sidewalks, crosswalks and streetscaping, particularly along State Street and other downtown arterials, will be key to "selling" downtown Lockport to businesses and shoppers alike. These physical improvements are typically the first projects implemented by communities undertaking downtown redevelopment. ERA recommends a sustainable element to these improvements through the use of permeable pavers and other green materials.

I & M Canal Enhancements
Countrywide, urban parks and waterfront amenities are playing an increasingly important role in community visitation and downtown living, while driving premiums in land and development value. In Lockport, connections between the Downtown and I & M Canal and the Des Plaines River Valley as well as enhancements to the I & M Canal will ultimately be important for generating interest in Lockport as a regional visitor destination and generating demand for additional downtown business and housing.

Downtown Library
The Library is an important demand generator for downtown Lockport and relevant to area families and other key downtown market segments. The library could also function as a complementary use to downtown events and programming, and should therefore be regarded as an integral component to downtown redevelopment.

Parking Structure
A downtown parking structure will be necessary to ease resident concerns over a perceived lack of downtown parking. The project will also be critical for accommodating the future parking needs of additional business and attractions in downtown Lockport. ERA recommends pursuing project LEED certification to illustrate the City's commitment to sustainable development in downtown Lockport.

Additional Restaurants

There are presently limited dining opportunities in downtown Lockport, especially for a community looking to attract additional housing and retail uses in the Downtown. From ERA's perspective, expanded dining is critical to increasing store sales and downtown activity, particularly in the evening hours. Targeted downtown restaurant recruitment should initially focus on relocating existing restaurants to the downtown core. These restaurants should either be family-oriented, serving breakfast, lunch and dinner or be more upscale, focusing upon dinner and evening entertainment.

Festivals and Special Events
Consistent with the theme of generating additional downtown activity, additional weekend festivals and events should become an integral component of downtown redevelopment. Typically, successful festivals appeal to at least two of the five senses (taste, smell, sight, touch, hearing), and have a local connection. Potential concepts for Lockport festivals include an antique festival, recreational events along Lockport's trails, or a "Taste of Lockport" highlighting local restaurants.

Downtown ibrary: The Library is an important demand generator for downtown Lockport and relevant to area families and other key downtown market segments. The library could also function as a complementary use to downtown events and programming, and should therefore be regarded as an integral component to downtown redevelopment.

Transportation Planning

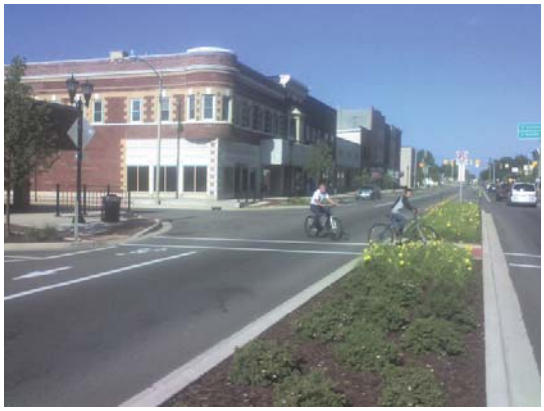
Street Reconfigurations

State Street (Historic District - 8th Street to 12th Street)

The current design of State Street serves as an impediment to the growth of downtown Lockport. To retain the historic character of the area as well as improve its economic vitality, the vehicular impacts of State Street must be minimized and an atmosphere that is friendly to pedestrians must be created. The volume and speed of the vehicles on State Street as well as the high percentage of truck traffic has been a contributing factor to downtown Lockport's inability to capture the pedestrian-oriented retail market it desires and deserves. Under the current conditions, State Street acts as a barrier that separates the east side of Downtown from the west side. To consolidate and enhance downtown, this barrier must be mitigated.

In the Historic Core, State Street is currently a four lane roadway with on-street parking provided on both sides of the street. The project team, both from first-hand observations and stakeholder interviews, noted the difficulty for pedestrians to cross from one side of the street to the other. This is due to a number of factors: the 62 foot width of this roadway, the lack of a median or refuge area in the middle of the roadway, the high volume of traffic, and the speed of the existing traffic. Each of these issues must be addressed in order to make pedestrians feel comfortable along State Street and to encourage them to cross the street at multiple locations.

Traffic Calming: Sturgis, Michigan



Traffic Calming: Sturgis, Michigan

This plan proposes to reduce the number of lanes on State Street from four to three. Both directions of State Street will provide one 12-foot travel lane, a 5-foot bike lane, and an 8-foot parking lane. A center left-turn lane will also be provided that will separate the northbound and southbound travel lanes. Due to higher turning volumes at 9th Street, this intersection will include right turn lanes. This geometry is expected to accomplish a number of objectives:

- Reduce the speed of traffic on State Street
- Reduce the distance that pedestrians must cross to get across State Street
- Provide space for bicyclists with a dedicated bike lane
- Possibly reduce the level of traffic congestion on State Street
- Re-connect the land uses on the east and west sides of State Street

Center Island

Bulb-Out Landscape Island

Reducing the number of existing lanes, as opposed to adding lanes, is a unique solution. Obviously the first reaction to this proposal is, “How does it affect the vehicular operations of the intersection?” For the most part, the proposed geometrics are expected to have little to no negative impact on the intersection operations in Downtown Lockport. At the signalized intersections, the through traffic on State Street will continue to receive the majority of the green time, with the exception of its intersection with 9th Street. At the intersection with 9th Street, the northbound inside through lane is currently used exclusively as a left-turn lane during the peak hours and the outside lane is used by vehicles traveling through and right. So, the northbound movement will continue to operate in the future as it does today. In the southbound direction, the inside lane is used both by vehicles turning left and continuing through. However, the majority of vehicles traveling through utilize the outside lane to avoid vehicles turning left from the inside lane. Due to flexible human travel behavior, it is possible that this plan will reduce the amount of traffic using State Street to pass through Lockport. These drivers would find alternate routes to avoid this slower area that will have more pedestrians and bicyclists in the future. It should be noted that the 9th Street bridge over the Des Plaines River Valley was closed for six months during this study. Those drivers found alternative travel routes during this time.

A State Street “road diet” provides the opportunity to adequately serve the current and future traffic demand in the area while concurrently making downtown Lockport a significantly better place for pedestrians and bicyclists. Although cars and trucks do represent local and regional commerce, their presence should not come at the detriment

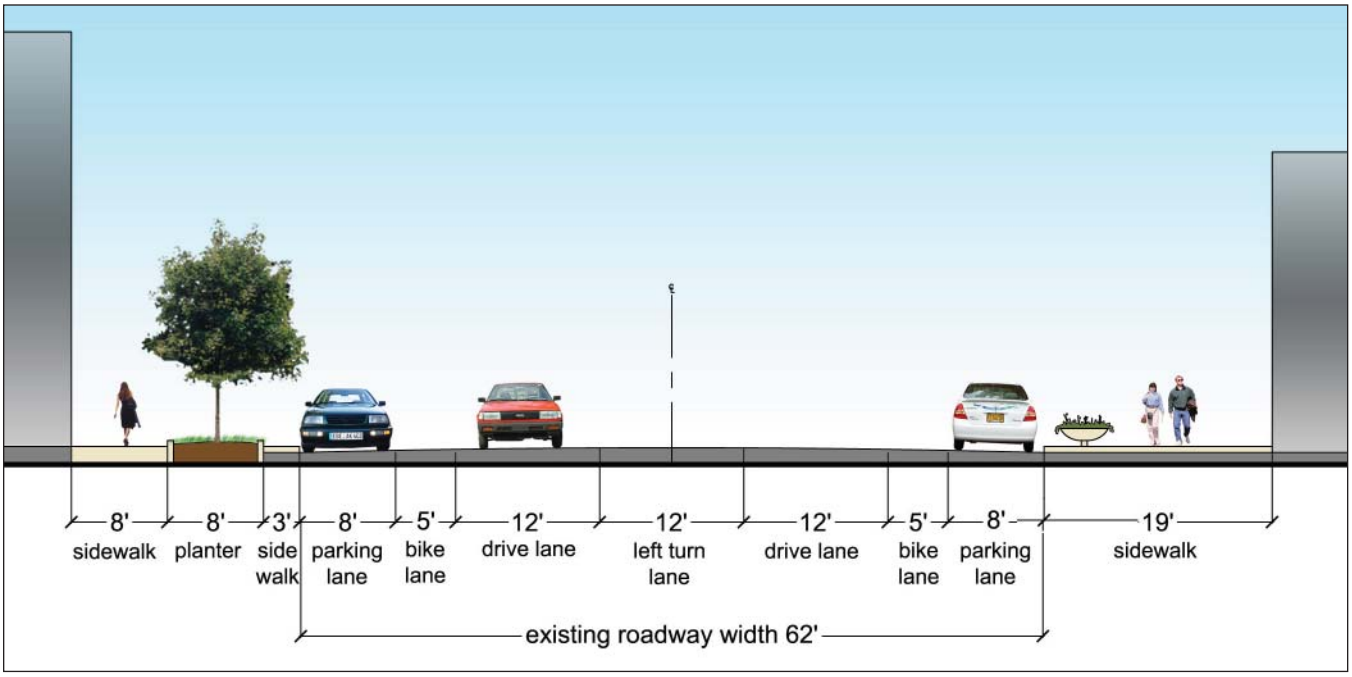
to a vibrant downtown Lockport. It is a priority for the City of Lockport to push hard to make State Street usable for all modes of transportation. Lockport has the support of the Illinois State Legislature when they passed what is defined as “Complete Streets” legislation in 2008 to include safe bicycling and walking facilities in all projects in urbanized areas.

Center Planted Median Island

Center Planted Median Island

A study by Iowa State University found significant safety and operational advantages of reducing a four lane undivided roadway, to a three lane cross section. It slightly reduced travel speeds, made both driving and walking safer, and the operational flows during the peak hour were not impaired since the center lane was most often used as the “de facto” left turn lane (“Urban Four-Lane Undivided to Three-Lane Roadway Conversion Guidelines,” Keith K. Knapp, Karen L. Giese, & Woochul Lee, *Proceedings of the 2003 Mid-Continent Transportation Research Symposium, Ames, Iowa, August 2003,* Iowa State University).

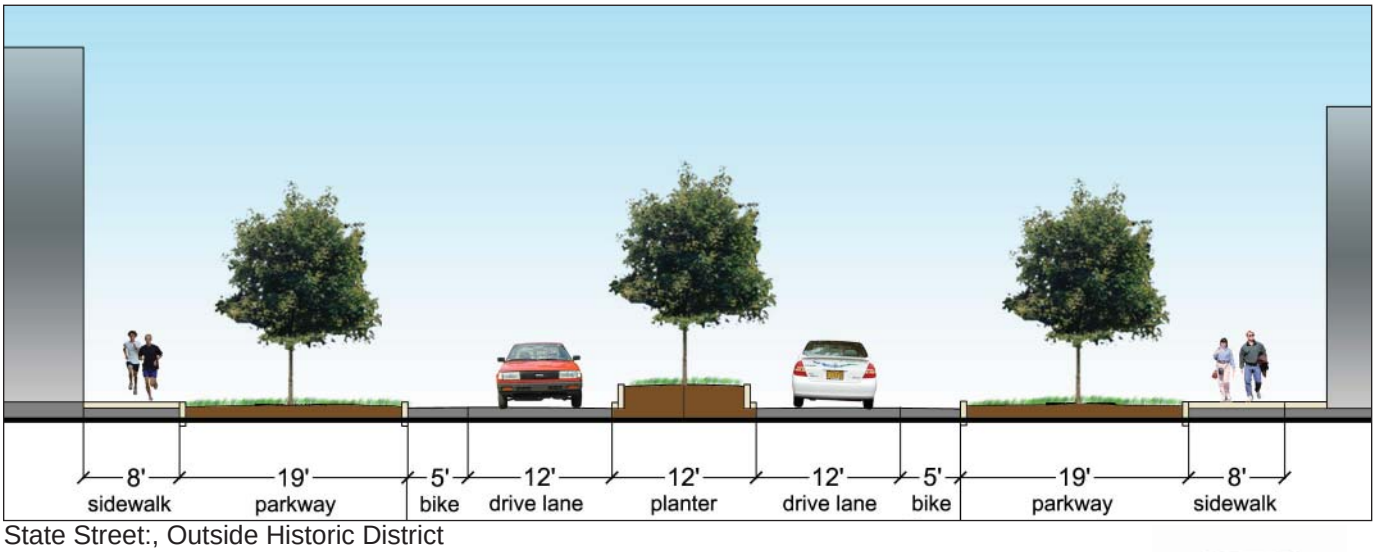
Land Strategies and the City of Lockport met with staff of the Illinois DOT to discuss the possibility of downsizing State Street to a pedestrian friendly three-lane cross section. This option will require significant further study, but should remain a priority for the City of Lockport



State Street/Historic District

State Street (External 2nd to 8th Street and 12th to Division)

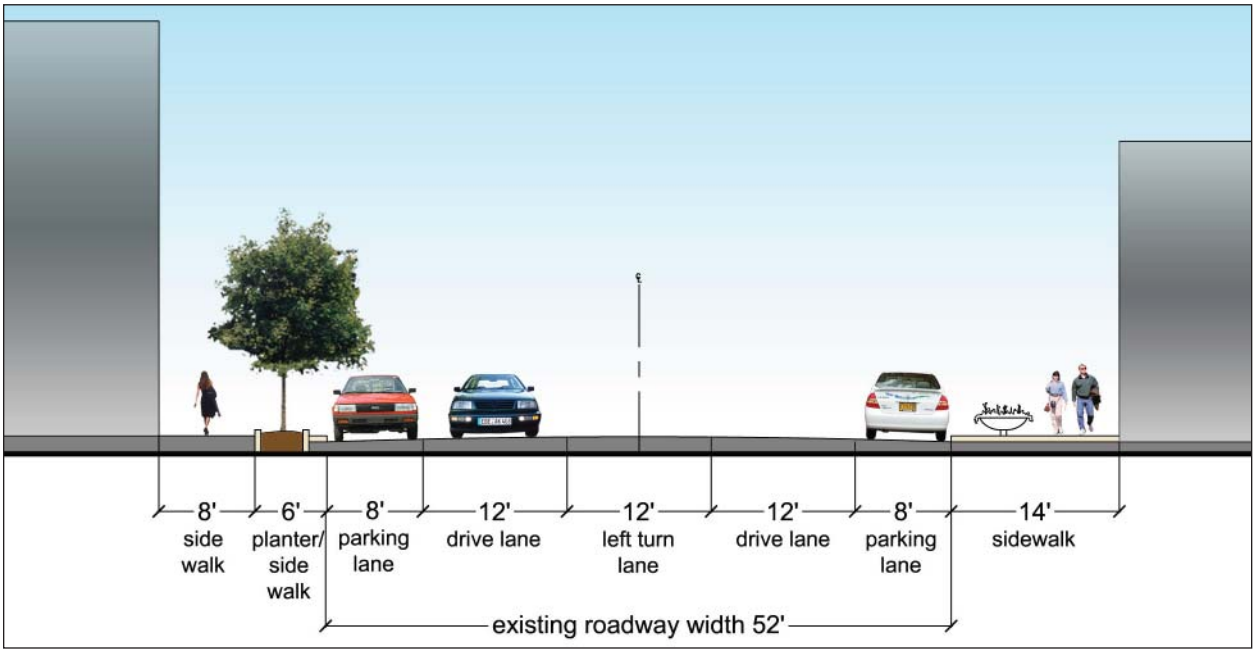
State Street, outside of the Historic District, is set primarily in a residential context. Similar to the segment in the Historic District, these sections of State Street are planned to be reduced from its current four lane cross section to a three lane section. As it is today, parking will not be provided on State Street as opportunities to park on-street are available in these areas on the side streets. The center section will contain a planted median at mid-block and provide left turn lanes at the intersections. The bike lanes will be carried along these sections of State Street and pedestrians will be protected from traffic by wide parkway and sidewalks.



State Street:, Outside Historic District

9th Street

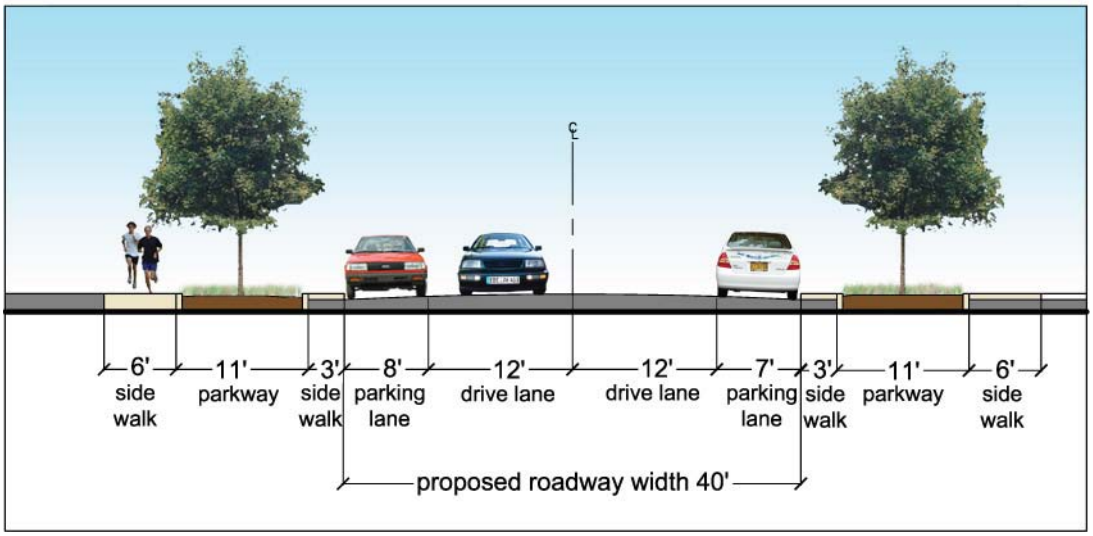
9th Street, which provides regional connectivity between I-355 and communities west of the Des Plaines River Valley, will maintain its current cross section through downtown Lockport. This includes one travel lane in each direction, one left turn lane, and parking.



9th Street: Hamilton to Commerce

Hamilton Street

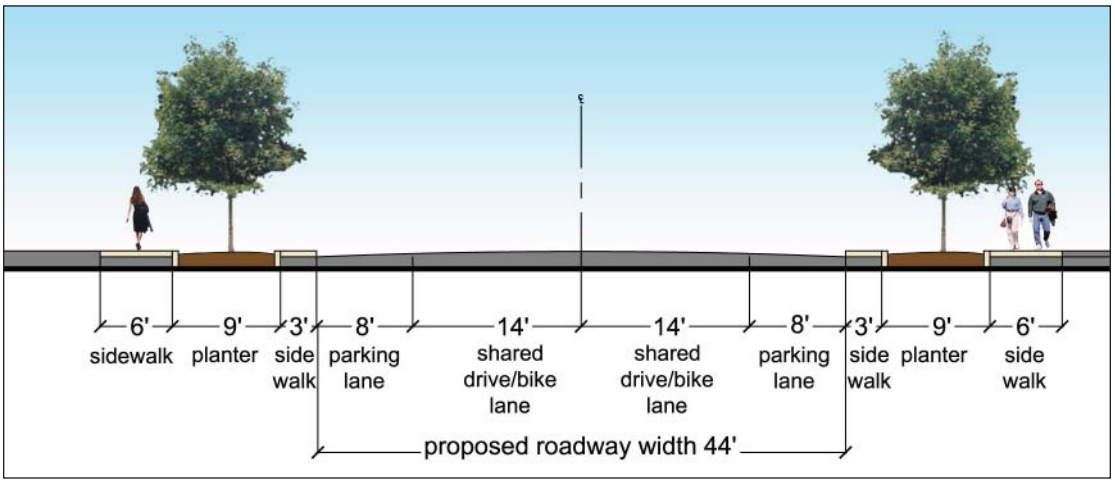
Hamilton Street, due to its north/south alignment and its purpose of bringing travelers into and out of Downtown should have a slightly wider cross section than a typical residential street. Its entire cross section will be consistent in the study area with 12 foot travel lanes and 8 foot parking widths.



Hamilton Street

2nd Street, 6th Street, 8th Street & Daviess Avenue – Shared Bike Lanes

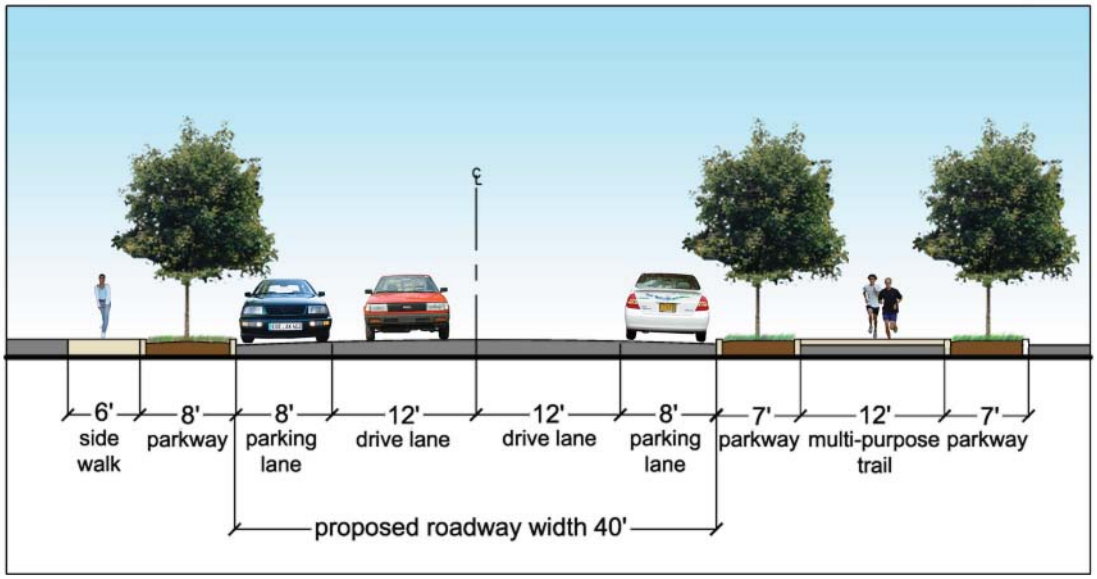
These four roadways are all proposed to contain a shared drive/bike lane. These shared lanes require that the drive lane is wider – 14 feet.



Shared Bike Lanes

2nd Street & Daviess Avenue – At Texaco/Chevron Development

These two routes will service bicyclists, but a bike path will be constructed outside of the roadway cross section to avoid conflict with trucks and cars.



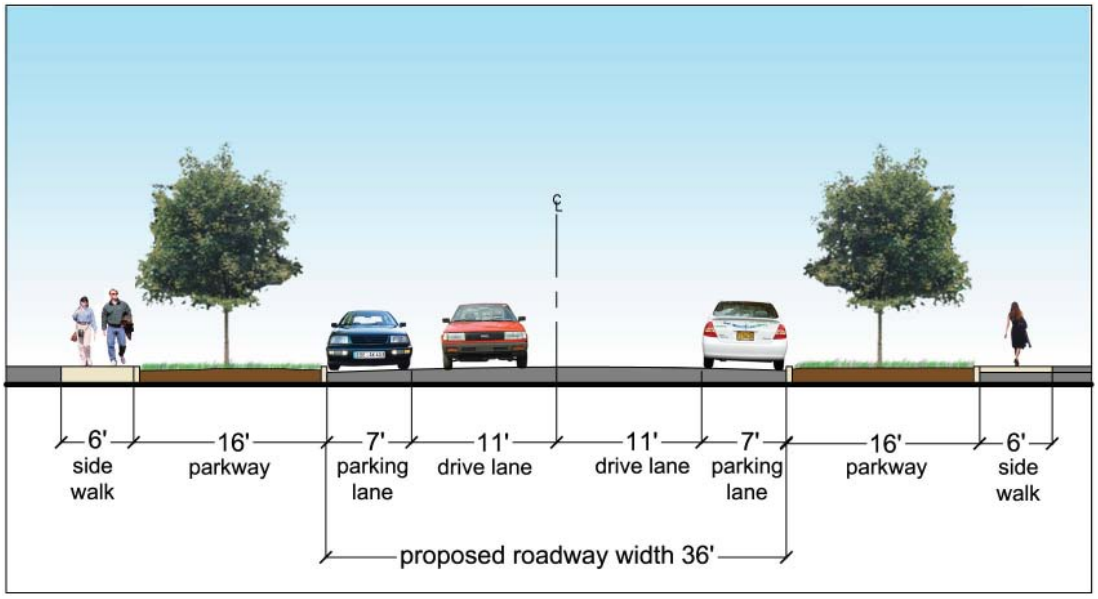
2nd Street and Daviess Avenue: Texaco/Chevron Development

13th Street and Division Street (west of State Street) – Marked Bike Lanes

13th Street provides a direct connection to the Metra train station. As such, it will be signalized at its intersection with State Street and provide striped bike lanes. Division Street will be a primary access roadway for new development west of the I & M Canal and provide a bicycle component to the Loop Trail.

3rd, 4th, 5th, 7th, 12th, 14th, 15th Streets

These residential roadways, both east and west of the I & M Canal will provide a standard residential cross section of two 11 foot travel lanes and two 7 foot parallel parking lanes.

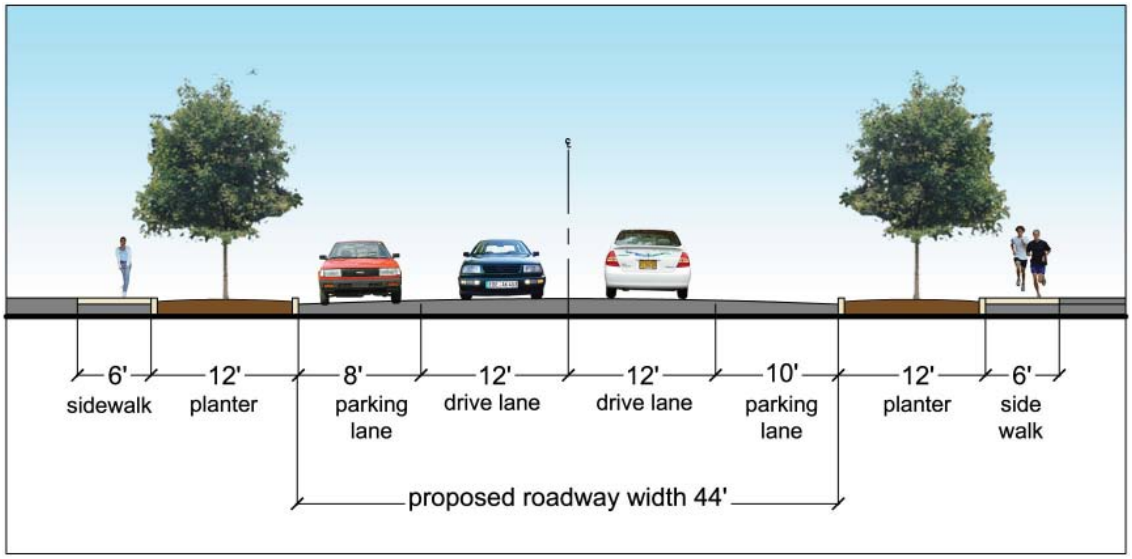


3rd, 4th, 5th, 7th, 12th, 14th, and 15th Streets

10th and 11th Streets

10th and 11th Streets are integral roadways to the core area of the Historic District. Both of these roadways provide angled parking (on both sides of the street) between State Street and Hamilton Street. While angled parking does allow for a larger parking supply than parallel parking does in a set distance, it also requires significantly more width (17 feet for angled parking spaces versus 8 feet in width for parallel parking spaces). On 10th and 11th Streets, that amounts to an additional 18 feet of roadway width that is dedicated solely to parking spaces that may or may not be used. The existing on-street parking supply is utilized during Friday and Saturday nights, but is typically under-occupied for the remainder of the week. By converting the angled parking spaces on 10th and 11th Street to parallel parking spaces, we provide a sufficient on-street parking supply, but also provide an option to establish more sidewalk space for café seating, bike racks, landscaping, and other pedestrian amenities.

Reducing the number of parking spaces raises the question, “Does this leave enough of a parking supply?” In short, yes. If the future parallel parking spaces are striped out and the parking spaces are given standard dimensions, then the parking supply will be reduced significantly. But the length of a typical parallel parking space is usually between 20 and 26 feet, which is much longer than most vehicles. If the future parallel parking spaces on 10th and 11th Street are not marked and vehicles can fit into the space they feel is comfortable, then the efficiency of the system will be maximized and the on-street parking supply could be reduced by a only few spaces on each street.



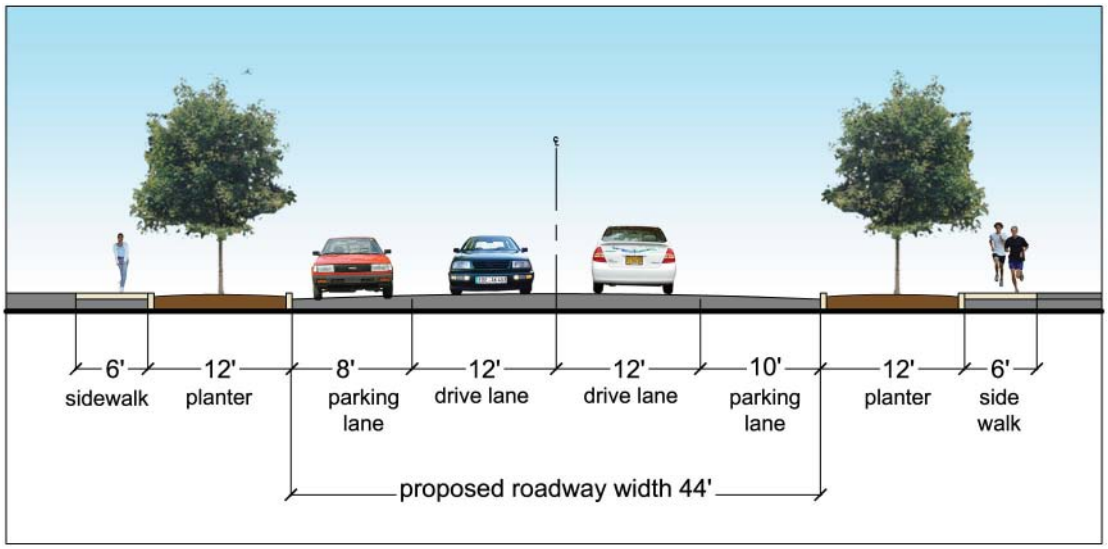
10th and 11th Streets

Division Street – East of State Street

Division Street, east of State Street, will retain its current cross section within our study area. This is due to transitioning that occurs as the cross section widens on its approach to State Street.

Canal Street

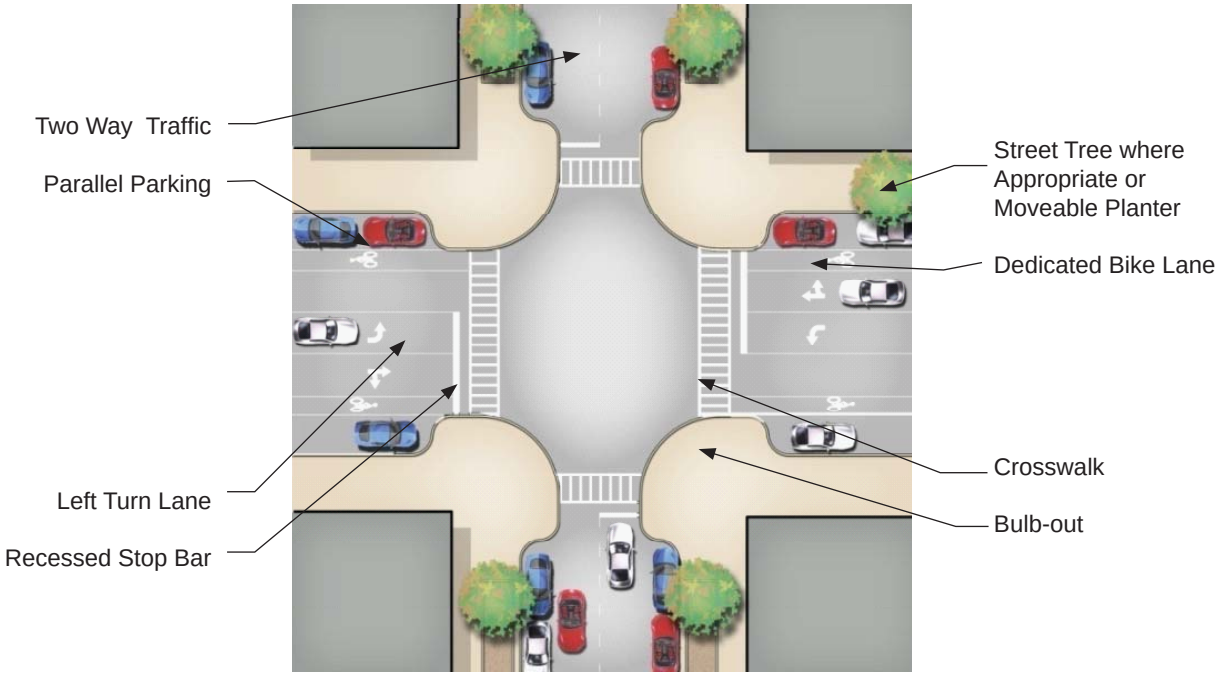
Canal Street will serve a number of purposes. For its everyday use, it will provide one lane of travel in each direction and parking for the new residential areas being developed in the West Side District. Canal Street will also provide two other purposes: along its north end, it will provide parking for buses that tour downtown Lockport and it will be a local by-pass of State Street during festivals and other times when State may be closed or traffic requires re-routing. However, this roadway is not planned to be an everyday truck by-pass for the Texaco/Chevron development.



Canal Street

Intersection Reconfigurations

Although a goal of The Downtown Lockport Master Plan is to make the area more pedestrian and bike friendly, it is imperative to maintain good vehicular operations at the critical study intersections, where traffic operations are important to the flow of traffic. The following intersections are or should be signalized to support land use development and pedestrian accessibility across State Street. All should be constructed with international or highly visible crosswalks, pedestrian countdown signals and pedestrian push-buttons to allow quicker pedestrian crossings. Coordination with the Illinois Department of Transportation will be necessary.



Typical Intersection Enhancement

State and 2nd Streets

This intersection is currently signalized and is proposed to undergo extensive improvements to support the estimated traffic that will be generated by the development of the Texaco/Chevron site. We recommend that the intersection improvements include bike lanes. As proposed in this plan and in the City of Lockport Bike Plan (City of Lockport Bicycle/Pedestrian Master Plan, 2003), an on-street shared bike lane should be located on 2nd Street, east of State Street. An off-street bike path on the south side of 2nd Street, west of State Street, should also be constructed. This proposed off-street path will separate bike and pedestrian traffic from traffic generated by the Texaco/ Chevron development on 2nd Street.

State and 6th Streets

To support pedestrian connectivity and allow for safe vehicular turning movements from 6th Street, a traffic signal is proposed at this intersection. This connectivity between the Northeast and other destinations in downtown Lockport is important to provide local residents with entertainment and retail opportunities to which they can walk or bike.

State and 9th Streets

The intersection of State and 9th Street serves as the nexus of vehicular traffic in downtown Lockport due to both its location and because both roadways are state routes. Given the importance of vehicular operations at this intersection, it is also imperative to restore priority to pedestrians at this location in order for downtown

Lockport to succeed. People need to be able to safely walk across this intersection to access the variety of important features of the area.

Our recommendation is to reconfigure State Street at this intersection to provide left turn lanes, through lanes and right turn lanes on both legs of the intersection, tying this section back into the proposed State Street three lane cross section. As State Street transitions from the typical cross section towards 9th Street, it should provide a 12-foot left-turn lane, a 14-foot through lane with a shared bike lane, and an 11-foot right-turn lane. Bike boxes should be installed on State Street ahead of the stop bars to allow bicyclists first access to the intersection. 9th Street would remain with the same configuration: a left turn lane, one through lane and a right turn lane (westbound only). Consideration should be given to placing this intersection and the intersection of Hamilton and 9th Street under one traffic controller due to the short distance between State and Hamilton at approximately 425 feet.

State and 10th Streets

This intersection is currently signalized and has incorporated bump-outs and visible painted brick to create a more pedestrian friendly crossing on 10th Street. State Street should be reconfigured from two through lanes in each direction to provide one left turn lane and one combined through/right lane. 10th Street will maintain its lane geometry on the west side of the road, but the east side can eliminate the small right turn lane and add a bump-out for pedestrians.

State and 13th Streets

A traffic signal has been proposed and approved at this intersection by the Illinois Department of Transportation. This location provides access to the Metra train station and will be striped for an on-street bike lane with a pedestrian/bicycle connection over the I & M Canal and into the West Side district. On State Street, this intersection should be striped for one left turn lane and one combined through/right lane in both directions. This traffic signal may induce drivers to cut-through on 13th Street to Division Street. This issue should be monitored and mitigated. An additional access point to Metra parking should be explored to relieve congestion at this intersection.

State and Division Streets

Similar to the other study intersections, the geometrics on State Street should be downsized to fit into the proposed boulevard plan. The intersection should provide a left turn lane and a combined through/right turn lane at three of the four legs of the intersection. The eastbound movement should maintain the right turn lane to minimize potential queuing back onto the railroad tracks.

Hamilton and 9th Streets

This currently signalized intersection will remain at it is today.

9th and Canal Streets

As new development occurs in the West Side District, this intersection will be providing the primary means of ingress and egress. It will also serve tour buses that will park along the east side of Canal Street for downtown activities and provide a local truck bypass when State Street is closed. If the traffic on Canal Street increases significantly in the future, discussion should be held with the Illinois Department of Transportation with regards to signalization.

Truck Traffic

Downtown Lockport has two State Highways that run through the Downtown – State Street (Illinois Route 171) and 9th Street (Illinois Route 7). Both of these facilities carry a significant amount of trucks.

State Street

- North of 9th Street: 1,900 trucks of 16,200 total vehicles or 12%
- South of 9th Street: 700 trucks of 12,000 total vehicles or 6%

9th Street

- East of State Street: 500 trucks of 13,500 total vehicles or 4%

Land Strategies conducted a small survey of truck drivers at the intersection of State Street and 9th Street to determine their origin and destination. Many of these drivers were fulfilling local trips between the communities of Lockport, Joliet, Lemont, Shorewood, and Romeoville.

Truck Bypass

There is the potential to replace State Street in Lockport as a truck route. The newly constructed Interstate 355 and Farrell Road, a three lane local roadway about 1.5 miles east of downtown, can provide a regional and local alternative for trucks to use in lieu of State Street.

Current Truck Route
Alternate Truck Route
Future Bridge and Roadway Construction

We recommend eliminating the IL 171 truck route or even transferring ownership rights of IL 171 and replacing it with Farrell Road (between Bruce Road to the south and 151st Street on the north). This would force trucks that are only passing through the community to remain out of downtown Lockport with an alternative route that is virtually the same distance and travel time as State Street. In the future, this bypass route would be improved with the planned Bruce Road bridge over the Des Plaines River and the extension of Farrell Road north from 151st Street along the current Smith Road right-of-way to Archer Avenue.

There is precedence for this effort in this region. The Village of Plainfield was also concerned with the volume of trucks and how it was impacting their Downtown on US Route 30. To solve this problem, the Village of Plainfield worked with local officials, state legislators and the Illinois Department of Transportation to de-designate the truck route status of US Route 30 between 143rd Street and Lockport Road and shift the truck traffic to IL Route 59. It was a two year process that ultimately resulted in a significant reduction in the amount of trucks traveling on US 30 through downtown Plainfield.

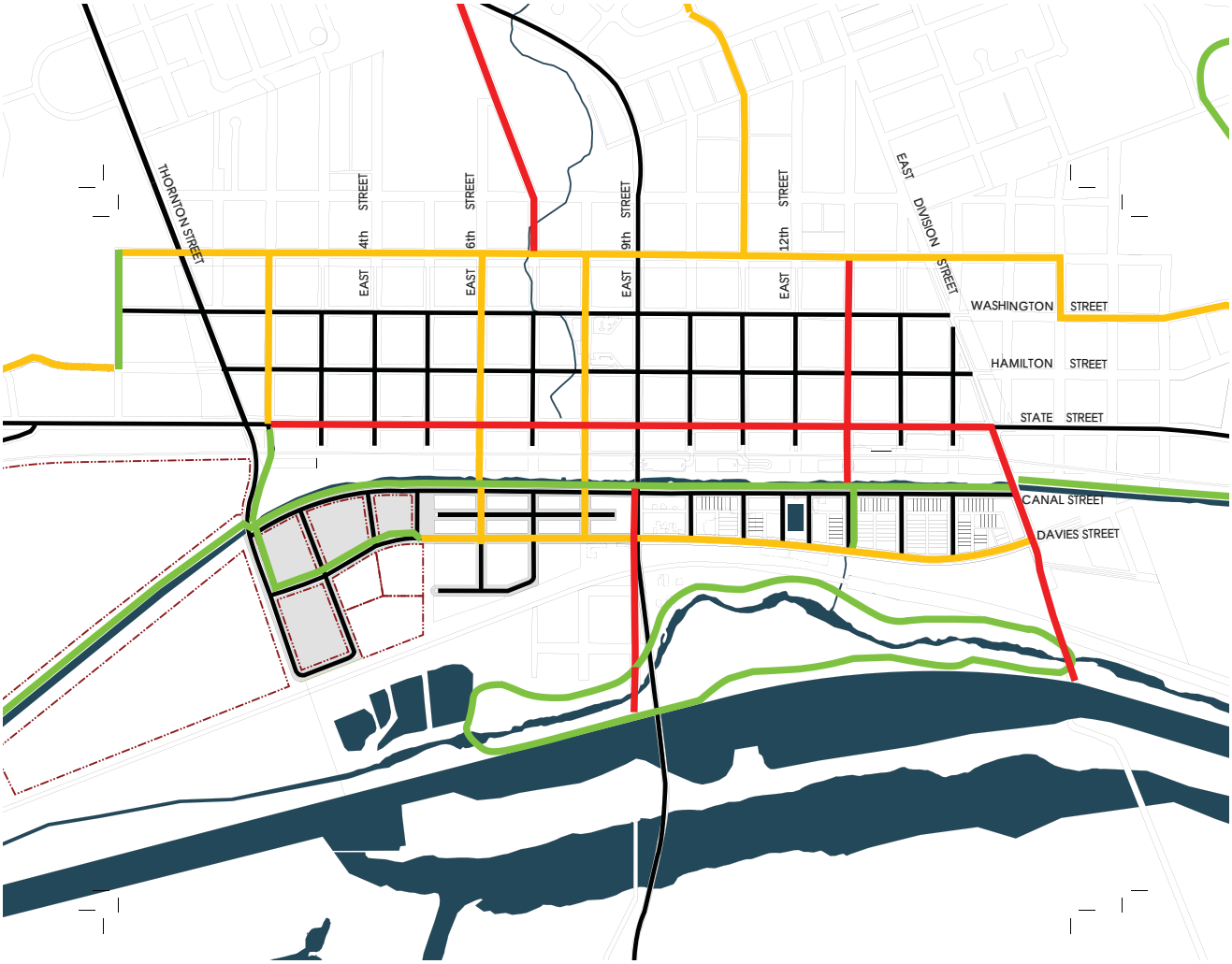
Truck Traffic Reduction Programs

Prior to de-designating State Street as a Class II Truck Route or establishing a voluntary by-pass using Farrell Road, there are other programs that can help mitigate truck traffic in downtown Lockport.

- Work with Texaco/Chevron Site developments for a volunteer system of keeping their truck runs out of Downtown. Elimination of all trucks all of the time would be the goal, but the plan may have to be crafted to certain times of the day and week.
- Work with the police department to enforce any truck violations in Downtown by ticketing infractions.
- Work with the Chamber of Commerce for a gift certificate awards program for truckers that avoid downtown Lockport.

Bicycle and Pedestrian Systems

Bicycles are becoming an important mode of transportation due to high gasoline prices and awareness by the American public of the personal health, economic, and environmental benefits that bicycling provides. The City of Lockport previously completed their Bicycle/Pedestrian System Master Plan in 2003 that provided a framework for bicycle improvements in the City. To support non-motorized travel for both recreational and everyday use, the project team has proposed additional bicycle facilities within the study area that will tie into the overall City plan. This system includes: on-street bike lanes, on-street shared paths, and off-street bike/recreation paths.



Bicycle Paths

LEGEND

- **On-Street Striped Bike Lane**
- **On-Street Shared Bike Lane**
- **Multi-purpose Off-Road Path**

On Street Bike Lane

Shared Use Bike Lane

On-Street Bike Lanes

New proposals for on-street bike lanes include:

- State Street, between 2nd Street and Division Street
- Division Street from State Street to the Sanitary & Ship Canal

On-Street Shared Paths

New proposals for on-street shared paths include:

- Daviess Avenue
- 6th Street between Daviess Avenue and the I & M Canal
- 8th Street, between Jefferson Street and State Street

Multi-Purpose Off-Road Paths

The off-street multi-purpose paths include:

- The existing I & M Canal Trail
- The proposed Green Loop Trail
- The trail along 2nd Street and Daviess Avenue in the Texaco/Chevron Development in order to separate bike travel from the truck traffic
- The two proposed I & M Canal bridge connection at 6th Street and the 13th Street Metra Station

Sidewalks

There are locations within the study area where sidewalks are not constructed. The City of Lockport should work to connect all sidewalk missing links and require all developments to provide new sidewalk, bike lane and trail connectivity with their developments.

Bridge Crossings

Bridge crossing of the I & M Canal are important for east/west connectivity. Existing and proposed bridges are:

- 2nd Street – New bridge to be constructed for bicycles and recreational use only

as part of the Texaco/Chevron development and plans to improve 2nd Street,
- 6th Street – New bridge across I & M Canal
- 8th Street – Existing pedestrian bridge to remain,
- 12th Street – Existing bridge to be removed at end of service life
- 13th Street – New bridge constructed to connect Metra Station to West Side

Critical Issues

- It will be critical to work with the Texaco/Chevron development team on the construction of the 2nd Street bike and pedestrian treatment due to the projected increase in automobile and truck traffic.
- It will be critical to work with the Illinois Department of Transportation on the construction of the State Street bike lanes.
- It will be critical to work with the State of Illinois on all trail crossings of the I & M Canal.

Public Transit

Metra Rail

Lockport is challenged by the under-utilization of the Metra station and the number of trains that can run along the Heritage Corridor. Metra service is limited due to the heavy freight traffic of the Canadian National Rail Company (CN), the owner of the tracks. Only three passenger trains run inbound to Chicago in the morning and three outbound in the evening. This limitation forces many to drive 20 minutes east to board the Metra Southwest Service, wasting time and resources as well as providing the community of Orland Park with retail dollars that could be spent in Lockport.

The City of Lockport should join forces with local legislators and the other communities along the Heritage Corridor to push for the realization of expanded service. The $1.5 billion CREATE program has been established by the State of Illinois, City of Chicago, Metra and the nation's freight railroads to fund rail improvements in the Chicago area including work on grade separation of the rail lines to increase capacity on this line. Along with the $9.5 million Brighton Park signal system improvement project funded by the CN, Norfolk Southern and CSX railroad companies and completed in 2007, CREATE has four projects planned within the 2007-2009 time frame. This will ultimately free up capacity on the line for both freight and Metra rail traffic. Metra however, is challenged by funding constraints that limit the purchase of new cars and line storage capability that must be resolved as well. Again, the City of Lockport joining forces with other stakeholders is necessary to resolve these funding issues.

The train station in Downtown Lockport is an Historic Building and should be celebrated with transit oriented design features that include:

- An expanded train platform
- A transit terminal for bus, shuttles, & vehicular pick-up/drop-off

- Sheltered bench seating
- LED signs indicating train arrival times and PACE Bus arrival times
- Pedestrian oriented retail opportunities
- Landscaping
- Reduced parking immediately surrounding the station for additional transit amenities.
- Consolidate parking lots for future transit oriented design land development.
- Perform a future transit oriented design study.

PACE

Lockport is currently served by PACE Route's 831 (service between Joliet and Midway Airport) and 834 (service between Joliet and Downers Grove). There is a PACE future transit corridor planned for 159th Street, between the Village of Plainfield and southern Cook county that would serve the City of Lockport along 9th Street.

The City should work to construct full protected bus shelters with LED signs indicating bus arrival times at the intersection of 9th Street and State Street and at the Metra train station.

Bus Shelter with LED Arrival Sign: Portland Oregon/M. de la Vergne

Shuttle System

The Lockport Township Senior Transit System has been operational since 2000 and offers inexpensive rides to seniors. The two shuttles are wheelchair accessible and cost $2.00 per round trip for seniors age 60 and older. They provide door to door service to and from health care facilities, businesses, and retail establishments. However, due to its demand, most rides are for health issues such as doctor visits. This service is only for Lockport Township, not Homer Township. Therefore, the entire community of Lockport is not served. As demand for Downtown visits becomes greater, the City of Lockport should consider forming their own shuttle service to serve the entire community.

Parking

It is not difficult to find a parking space in downtown Lockport on a typical weekday. There are a few exceptions to this rule, such as at the Metra station or in the area of the Gaylord Building, but for the most part, the existing parking supply is well in excess of the parking demand during weekdays. This does not mean that a driver will be able to park directly in front of their destination, but there is parking available within a very short walk of most downtown Lockport's amenities.

The parking demand does rise significantly on Friday and Saturday evenings. The land uses that are generating this parking are the Moose Lodge and the bars/restaurants in the area, as well as the occasional special event. Based on our observations and parking counts, it can be difficult to find parking during these times in the area of 9th Street, 10th Street, 11th Street, and State Street. The off-street parking lot on Hamilton Street (behind the Moose Lodge) and the lot serving the Gaylord Building also experience a high demand of parking.

All on-street and off-street parking spaces are limited by time restrictions placed on them. The most desirable parking spaces have a two hour limit on them and parking spaces that are not in high demand are available for up to eight hours. The purpose of these time limitations is to create turnover so that these parking spaces are not used by residents or employees as long-term parking. While time-limits for on-street parking does encourage turnover of parking spaces, they are difficult to enforce because the enforcement is very labor intensive.

The on-street parking spaces on State Street, 9th Street, and Hamilton Street are parallel parking spaces and the parking spaces on 10th and 11th Streets are angled parking spaces. Angled parking spaces do provide a larger parking supply than striped parallel parking spaces, but they also require significantly more of the right-of-way. If the angled parking spaces on 10th and 11th Streets were converted to un-striped parallel parking spaces, the existing parking supply in the area would be reduced by a few spaces (the exact number depending on whether the future parallel parking spaces were designated or not) but a significant amount of space could be returned to pedestrians resulting in much wider walking spaces and reduced crossing distances at intersections. The reduction in parking supply may slightly impact the area during Friday and Saturday nights, but it can be managed by signage directing drivers to other areas where parking is available. If an off-street parking structure is constructed in the future, it will increase the parking supply in the area.

Short Term Solutions

- Provide better way-finding for on-street and off-street parking that is located on Hamilton Street and north of 9th Street. This will help utilize those spaces more efficiently during peak times.
- Enhance and expand existing City parking lots (especially lot off Hamilton between 9th & 10th Streets) and seek land for additional at grade lots (at future parking structure location and between 10th and 11th Streets north of State Street)
- Create a valet or other area-wide system that allows quick access to destinations, yet parks vehicles in locations with excess supply.

Long Term Solutions

- Price parking on State Street, 9th Street, 10th Street, and 11th Street so that the demand equals the supply. This will increase the turnover of these parking spaces, which are the most desirable in the Downtown area.
- Create a Parking Enhancement District that returns parking revenue to the area.
- Re-stripe the parking spaces on 10th Street and 11th Street as parallel parking spaces on one or both sides of the roadway.
- Construct a parking structure on the west side of State Street between 11th and 12th Streets. Ensure that the price of parking in the parking garage is less than the price of parking on-street. This will encourage drivers to use the parking garage as opposed to spending time cruising for an on-street parking space.

Railroad Crossings

On April 27, 2005 the Federal Rail Administration (FRA) published the *Final Rule on the Use of Locomotive Horns at Highway-Rail Crossings*. For the safety of the traveling public, this rule requires that railroads sound horns at every public crossing in the United States and provides guidelines for how railroads should sound horns and how loud they should be. It also provides guidance for public authorities to either maintain an existing quiet zone or establish a new quiet zone.

The Canadian National Railroad (CN) and the Burlington Northern Santa Fe Railroad (BNSF) have lines that run through downtown Lockport. The CN line carries freight traffic, as well as Metra and Amtrak service. Passenger service often travels at high speeds as this line has a maximum speed of 79 mph through Lockport. The BNSF line carries only freight traffic.

In Lockport, the CN line has seven at-grade vehicle crossings and two pedestrian crossings, while the BNSF line has one at-grade vehicle crossing at 9th Street. Train horns are blown as trains travel the entire length of Lockport to make sure each crossing is covered and safe. The effect of this horn blowing has a detrimental effect on the quality of life for downtown residents and patrons. The City of Lockport can mitigate the effect of horn blowing in two major ways.

Railroad Crossings

LEGEND

- **Vehicle Railroad Crossings**
- **Pedestrian Railroad Crossings**

Quiet Zone

A quiet zone is a single at-grade highway/rail crossing or a system of crossings where the locomotive engineer, under normal conditions, is ordered to not blow the train horn while approaching the crossing.

For the approval of a quiet zone, it must be established that mitigating factors have reduced the risk of an accident to acceptable levels in order to off-set the use of the train horn. There are four ways to meet the conditions for approval of a quiet zone.

- One or more of the following supplemental safety measures (SSM's) are installed at each public crossing. These are relatively expensive measures with respect to

construction and maintenance yet the FRA will not require an annual review of the *Quiet Zone Risk Index* or risk losing the quiet zone due to changes in this index.

- Four quadrant gates
- Gates with medians
- Gates with one-way streets
- Permanent closure of a crossing

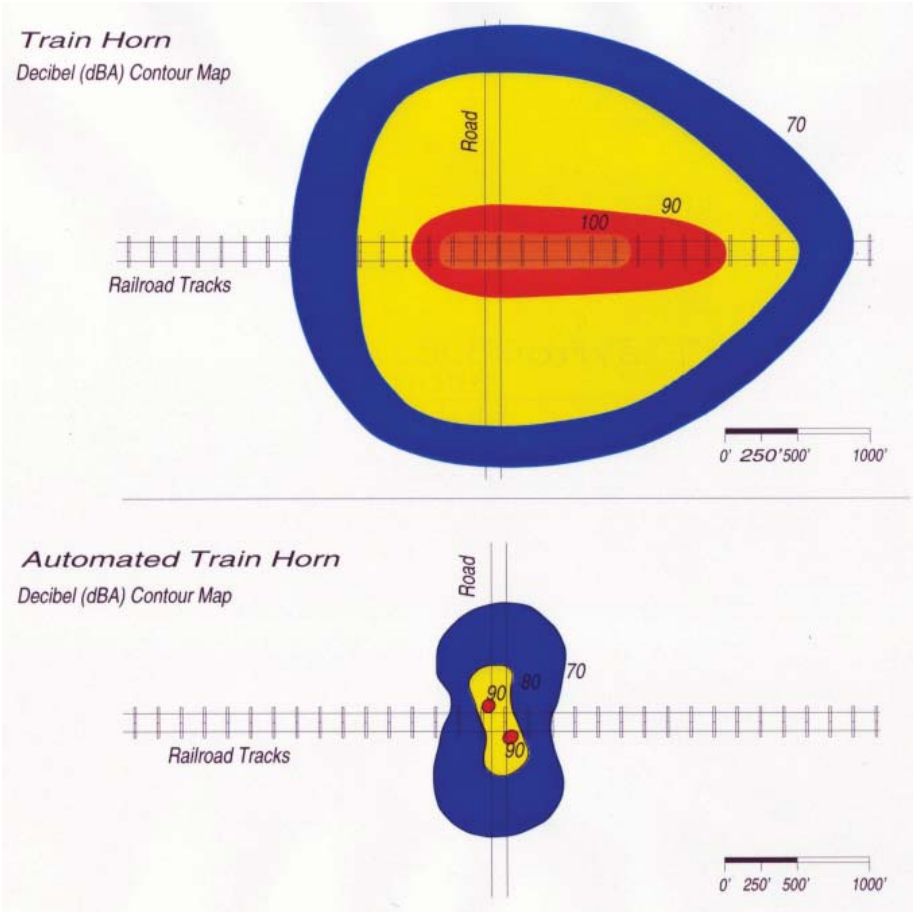
- The Quiet Zone Risk Index is equal to or less than the Nationwide Significant Risk Threshold without implementation of additional safety measures at any of the crossings in the quiet zone. This method would require an annual review of the crossings by the FRA based on an updated Quiet Zone Risk Index at the crossings and any potential changes to the Nationwide Significant Risk Threshold.
- Additional safety measures are implemented at selected crossings resulting in the Quiet Zone Risk Index being reduced to a level equal to or less than the National Safety Risk Threshold. This method would require an annual review of the crossing by the SRA based on an updated Quiet Zone Risk Index at the crossings and any potential changes to the Nationwide Significant Risk Threshold.
- Additional safety measures are taken at selected crossings, resulting in the Quiet Zone Risk Index being reduced to at least the level of risk that would exist if train horns were sounded at every public crossing in the quiet zone. These are relatively expensive measures with respect to construction and maintenance yet the FRA will not require an annual review of the *Quiet Zone Risk Index* or risk losing the quiet zone due to changes in this index.

    - Median barriers that channel approaching traffic and prevent driving around lowered gates. This item would cost about $20,000 to $30,000 per crossing and could be implemented at the 9th Street BNSF crossing and the Division Street CN crossing.

    - Automated wayside train horns are directed at oncoming vehicles and pedestrians and simulate the sound and pattern of an oncoming train horn. Wayside horns can be used to replace the trains blowing their horn. They can be used at any highway/rail crossing equipped with an active warning system consisting of, at a minimum, flashing lights and gates and the system must be equipped with an indicator or other system that notifies the engineer whether the system is operating. Due to the close spacing of the crossings, each crossing should be installed with a wayside horn, or the engineer will have to blow the horn at any crossing that does not have one installed.

Barrier Median at Rail Crossing: Article
by John W.P. Redden, P.E. in APWA

The City of Lockport should contact the FRA to begin the diagnostic review process for establishment of the Quiet Zone or additional safety measures. The FRA will perform a diagnostic review of the crossings and make recommendations with respect to quiet Zone options. The author thanks TKDA Engineering for their web site containing information regarding quiet zones (www.tkda.com).



Train Horn Decibel Contour Map: Article
by John W.P. Redden, P.E. in APWA

Infrastructure Planning

Water Mains

The existing water mains are adequately sized to support the proposed redevelopment with the exception of a few small diameter mains. However, the existing water mains are generally in excess of 50 years old and their condition is unknown. Small diameter water mains along 3rd Street, 4th Street, 11th Street, 12th Street, 13th Street and 15th Street should be replaced with minimum 8 inch diameter water mains as redevelopment and infill development occurs to support the needs of fire suppression systems. Larger diameter mains should be considered for replacement if they will be beneath redeveloped streetscapes or roadways as they are reaching the end of their serviceable life and maintenance or replacement in the future could disturb newly installed improvements and therefore would be more costly to replace/repair in the future.

Some water main extensions may be required in the Canal District to support recreational activities along the existing path. Additional extensions may be required in the Northeast District to support infill and redevelopment along Commerce Street north of 7th and in the West Side District to support the proposed residential redevelopment.

The location of fire hydrants should be evaluated in the areas adjacent to each of the planned infill and redevelopment areas to confirm that the existing hydrants meet the current spacing requirements per the City's Ordinances.

The additional studies being prepared by the City should be consulted and take precedence over the recommendations above as these studies should be significantly more detailed.

Sanitary Sewers

The existing sanitary sewers within all of the Districts are adequately sized to support the recommend redevelopment and infill development. Although the sizes are adequate, the City has indicated that there are problems with infiltration into the existing sewer system. As redevelopment occurs, the sewers within and adjacent to the redevelopment areas should be televised and studied in detail to evaluate the condition of the sewers. If the sewers are generally true in grade and show no signs of deformation or cracking, in-place lining of the pipes should be an adequate solution to minimize pipe infiltration. If the sewers show deflection or damage, the sewer should be replaced. Sanitary sewer manholes should also be lined (brick or block manhole should be replaced regardless of condition) or replaced with structures that have sealed joints to reduce infiltration. The replacement or lining of the existing sanitary sewer system should be considered a priority since the reduction of infiltration into the system would reduce the City's cost for sewage treatment.

Storm Sewers

The limited amount of information that is available regarding the existing storm sewer system makes a thorough evaluation of the system difficult. Our field review of the system revealed that although the conveyance system appears to serve most areas sufficiently, there is no stormwater detention within any of the planning districts. This is not unusual for an area that was developed more than 50 years ago. We also expect that the storm sewers are undersized based on current standards for design.

As development occurs, the existing storm sewer systems should be studied in detail to confirm that the conveyance system meets current design standards. All new development will also be required to meet the current Will County stormwater ordinance. This will require that each development provide stormwater detention for the impervious areas constructed. If approached individually, this will likely require that each development provide small surface or underground detention facilities that will increase the costs of the redevelopment projects and take up valuable redevelopment space. We suggest that the Village perform detailed regional stormwater studies to determine the amounts of detention that will be required within each district and develop a regional solution to providing the needed detention storage. This approach will simplify the redevelopment process, reduce the time required to obtain permits and reduce the cost of development of infill /redevelopment projects and reduce long term maintenance costs associated with multiple small detention facilities.

The floodplains in the Texaco/Chevron and West Side Districts are also a concern. Redevelopment within these districts will require additional studies to determine how and to what extent the floodplain affects the proposed structures and how that should be addressed. Regional studies should be pursued to determine the most current limits of the floodplain and regional projects should be considered to reduce the number of structures in the floodplain, particularly at the Texaco/Chevron Site.

Lighting

Although the existing lighting within the planning districts appears to provide adequate lighting for the current uses, the proposed changes and the variety of existing light poles and heads suggest that improvements would be appropriate. Lighting within the residential and transition areas of the District are mainly provided by mast arms mounted on utility poles. Lighting along State Street and portions of other streets within the Historic District are ornamental and a few Davit Arm poles exist in transition areas along State Street.

We recommend that the ornamental lighting be extended along State Street from 8th Street to 2nd Street and from 13th Street to 15th Street to enhance the aesthetics and support the proposed infill and redevelopment plans along this corridor. Ornamental lighting should also be extended to cover the remaining areas of the Historic District.

Ornamental lighting should be provided for the residential development in the West Side

District to tie it aesthetically to the Historic District. Consideration should also be given to providing pedestrian level lighting along the Canal Corridor to encourage night time use of this area and provide pedestrian linkages across the Canal.

Pedestrian Facilities

Grade issues will challenge the ability of new walks to meet the current ADA standards and Illinois Accessibility Code (IAC) legislation. The majority of these challenges are in the Historic District adjacent to some of the retail areas and along the cross streets between Commerce Street and State Street and between State Street and Hamilton Street. As redevelopment occurs, steps and steep grades that do not meet the most current version of the IAC, should be eliminated.

There are also numerous vaulted sidewalks that are known to exist along State Street and it is possible that others exist within the Historic District. As redevelopment occurs, the need to maintain vaulted sidewalks and the feasibility of filling these vaults should be evaluated.

Roadways

The majority of the roadways are in serviceable conditions with some notable exceptions. Within the portions of the Historic District and the Southeast District, the condition of Hamilton Street is relatively poor. Since the Historic District will be a focal point for the Downtown, we recommend improvements to Hamilton Street to match the recently constructed sections between 9th and 10th Street.

Roadway improvements will be required within the West Side District as part of the redevelopment of this area. The roadway improvements required should be pursued as a part of the redevelopment projects.

The roadways in the existing residential northern portion of the West Side District are substandard and in poor condition. In an effort to encourage improvement to some of the properties in the area, consideration should be given to updating the streets to more modern curb and gutter cross sections with improved pavement surface.

Electrical and Telecommunications

Electrical and Telecommunications (cable TV, internet, and telephone) are provided by overhead service mounted on wood poles throughout all of the planning districts. Although the existing facilities appear to be sufficient to provide service to the planned redevelopment, the overhead cables and wooden poles are generally unsightly and impact potential tourist views of Lockport, particularly in the retail and historic areas.

Relocation or burying of the overhead electrical and data services should be considered with the first priority being the historic core and retail areas along State Street. The next priority should be Commerce Street since this area, currently a service corridor, is planned to be improved to better support the recreation uses along the I & M Canal corridor. Relocations are a low priority for the existing residential areas of the Northeast, Southeast, and West Districts.