BETTENDORF

TRANSPORTATION PLAN

City of Bettendorf, Iowa

April 11, 2013

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

BETTENDORF

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BETTENDORF TRANSPORTATION PLAN

Bettendorf's transportation system needs to provide for the safe, efficient, and economical movement of people and goods in an environmentally sustainable manner. The City of Bettendorf, as a part of the Quad City urbanized area, participates in a comprehensive, coordinated, and continuing transportation planning process. This involves the development of both long-range and short-range transportation plans. The 2040 long-range transportation plan has recently been completed for the Quad Cities by the Bi-State Regional Commission. A three year short-range transportation improvement plan is updated annually. All projects receiving federal transportation dollars must be listed within these documents.

The Bettendorf Transportation Plan must also include transportation needs that address the proposed development goals and strategies that the City is pursuing. This plan will examine streets/highways, transit, railroads, river transportation, sidewalks, trails, and bikeways.

1. Streets and Highways

The City of Bettendorf and the Quad City area are served by four interstate highways (I-74, I-80, I-88, I-280), four United States primary highways (US 6, US 61, US 67, and US 150), as well as an extensive secondary roads system that combine to provide efficient movement of people and goods to/from and within the area.

Interstate 80 follows the northern border of Bettendorf and connects the area with both the east and west coasts of the United States. Annual Average Daily Traffic (AADT) volumes on I-80 are 27,500 vehicles per day through Bettendorf. The I-280 bypass and I-80 completely encircle the Quad City metropolitan area, providing excellent access to and from the area. Interstate 74, for the most part, follows the western border of Bettendorf, with 2009 traffic ranging from 31,200 vehicles per day near I-80 to 70,000 vehicles per day near the Mississippi River bridges. I-74 bisects the metropolitan area and provides efficient movement within the area and the southeastern portion of the United States while Interstate 80 provides direct access to Chicago and beyond.

The City of Bettendorf is also well-served by other major roadways. **Table 1.1** includes street classification standards for the various roadway types throughout Bettendorf. Arterial streets carry the highest volume of traffic within communities, with emphasis on longer trip mobility over adjacent property access. Collector streets provide both property access and mobility to the arterial street system. Local streets provide the highest level of property access, providing the lowest level of mobility and sometimes are designed to discourage through traffic.

Table 1.1: Functional Classifications

Classification	AADT	Access	ROW
Interstate	40,000-80,000	Prohibited	300’
Principal Arterial	15,000-40,000	Controlled	100’-150’
Minor Arterial	5,000-20,000	Limited	100’-125’
Collector	1,000-10,000	Uncontrolled	80’-100’
Local	<2,000	Uncontrolled	50’-80’

Arterials in Bettendorf include US 67 (Grant Street/State Street), Middle Road, Kimberly Road, Spruce Hills Drive/23rd Street, 18th Street, Devils Glen Road, Utica Ridge Road, 53rd Avenue, and Tanglefoot Lane. Other streets that are expected to become arterials as development proceeds in eastern and northern Bettendorf include Indiana Avenue, Forest Grove Drive, and Criswell Street. There are numerous Collector streets as well that provide access to the arterials and ultimately the Interstate system.

Figures 1.1 and 1.2 include existing and future average daily traffic volumes on the primary streets in Bettendorf. **Figure 1.3** includes roadway classifications for the primary street system. The combination of existing and future arterials and collectors throughout Bettendorf provides several north/south and east/west routes for motorists and pedestrians to access various parts of town efficiently. As traffic increases throughout Bettendorf, increases in capacity will be necessary to certain roadways as well as the completion of some streets that currently are shown as future alignments.

To help identify which of the arterials and collectors will require additional capacity in the future, Bi-State uses a Quad City area-wide traffic model of the street network to analyze future traffic volumes and patterns. The 2040 traffic scenario analyzed road segments that would likely be congested with future traffic on an unchanged roadway system. Congestion was determined by comparing the future volume of the roadway to the generalized capacity of the roadway. **Figure 1.4** includes Bi-States projected volume/capacity values for the Bettendorf street system. Future traffic is formula-driven based on employment, population, school enrollment, and other factors. **Table 1.2 and Figure 1.5** include projects that will need to be completed prior to 2040 to address the projected capacity issues per the Bi-State model. The table also indicates any of the projects identified in the current City Capital Improvements Plan (CIP). **Figure 1.6** includes typical roadway sections for future three lane and five lane roadways throughout Bettendorf.

Middle Road, between Woodfield Drive and Indiana Avenue, is identified to need capacity improvements prior to 2040, and likely sooner dependent on development activities in the eastern and northern part of Bettendorf. Currently, Middle Road in this area is a two to three lane roadway and will need to be

widened to a five lane roadway to I-80 to accommodate future traffic. Depending on development patterns north of I-80 in the future, Middle Road will need to be widened to a 3-lane or 5-lane roadway.

The long range traffic model also shows that certain intersections along **53rd Avenue** between the western City Limit and Mayfield Drive will need capacity improvements and/or traffic signal modifications in the future. Improvements could include turn lane modifications and/or traffic signal coordination improvements. 53rd Avenue, between Devils Glen Road and Middle Road, was also identified to have future capacity issues per the model. The current two-lane divided roadway could be widened to a four-lane divided roadway to address the issue.

Spruce Hills Drive between I-74 and Utica Ridge Road will need to be addressed to improve capacity in the future. This location could be addressed with the reconstruction of the I-74 corridor. The I-74 project includes improvements to the NB I-74 ramps being relocated to the west, providing additional space between the ramps intersection and the Utica Ridge Road intersection. If improvements are needed prior to the I-74 improvements being completed, turn lane modifications and/or traffic signal timing improvements should be considered.

State Street and **Grant Street**, between 8th Street and 23rd Street, will also be impacted by the proposed I-74 corridor project. The I-74 project would significantly reconfigure the interchange with I-74 and State Street/Grant Street in Bettendorf, including rerouting State Street under the proposed bridge, converting Grant Street to two-way operation, and developing an interchange of I-74 at Grant Street. If improvements are needed prior to the I-74 improvements being completed, turn lane and parking modifications along State Street and Grant Street should be investigated to address capacity issues.

Table 1.2: Capacity Improvement Projects

Project	Scope
Middle Road (Woodfield Dr – Norwood Dr)	Reconstruction; 5-lane
Middle Road (Norwood Dr - Crow Creek Rd)	Reconstruction; 5-lane
Middle Road (Crow Creek Rd – Forest Grove Dr)	Reconstruction; 5-lane
Middle Road (Forest Grove Dr – I-80)	Reconstruction; 5-lane
Middle Road (I-80 – Indiana Ave)	Reconstruction; 3-lane/5-lane (I-80 TDS)
53rd Avenue Intersections (west City Limit - Mayfield Dr)	Turn lane / Traffic Signal Modifications
53rd Avenue (Devils Glen Rd – Middle Rd)	Reconstruction/widening; 4-lane divided
Spruce Hills Drive (west City Limit - Utica Ridge Rd)	Turn lane / Ramp Improvements (I-74 Imp)
State Street (8th St – 23rd St)	Turn lane / Parking Modifications (I-74 Imp)
Grant Street (8th St – 23rd St)	Turn lane / Parking Modifications (I-74 Imp)

Although not identified as having future capacity issues, there are several roadway segments throughout Bettendorf, identified in **Table 1.3 and Figure 1.5**, that should be constructed or improved to provide

additional connectivity and aid economic development. The table also indicates any of the projects identified in the current City CIP.

Criswell Street will likely become a significant north/south route near the eastern City limits as development continues in east Bettendorf and within the I-80 Transportation Development Strategy (TDS) limits. The extension of **Hopewell Avenue** to Criswell Street as well as the extension of **53rd Avenue** and construction of the new **N/S Road** will provide additional east/west connectivity for these development areas as well.

The extensions of **Tangelfoot Lane** and **Moencks Road** to State Street (US 67) will provide additional access and efficiency for travel from central Bettendorf to/from the east along US 67. These extensions can also provide space for trails or bicycle lanes for connection of the Bettendorf trail system to the Mississippi River Trail system. Tanglefoot Lane is the likely candidate for a future bridge between Bettendorf and East Moline in the future.

The improvements to **Devils Glen Road**, **Middle Road** (north of Indiana Avenue), **Indiana Avenue**, and **Forest Grove Drive** are identified as a part of the recently completed I-80 Transportation Development Strategy. The need for improvements to these roadways will largely be driven by development in the north part of Bettendorf.

Table 1.3: Connectivity / Economic Development Projects

Project	Scope
Criswell Street (Valley Dr – State St)	New construction; 3-lane/5-lane
Criswell Street (Valley Dr – Hopewell Ave)	Reconstruction; 3-lane/5-lane
Criswell Street (Hopewell St – Forest Grove Dr)	Reconstruction; 3-lane/5-lane
Hopewell Avenue (Middle Rd – Criswell St)	New construction; 3-lane
Tanglefoot Lane (Middle Rd – State St)	New construction; 3-lane
Moencks Road (Valley Dr – State St)	New construction; 3-lane
53rd Avenue (Judge Rd – New N/S Rd)	New construction; 4-lane/5-lane
New N/S Road (Crow Creek Rd – Hopewell Ave)	New construction; 3-lane
Devils Glen Road (53rd Ave – Forest Grove Dr)	Reconstruction; 3-lane/5-lane
Devils Glen Road (Forest Grove Dr – 220th Street)	New construction; 3-lane/5-lane (I-80 TDS)
Middle Road (Indiana Ave – 220th Street)	New construction; 3-lane/5-lane (I-80 TDS)
Indiana Avenue (west City Limit – Middle Road)	Re/New construction; 3-lane/5-lane (I-80 TDS)
Indiana Avenue (Middle Rd – east City Limit)	Reconstruction; 3-lane/5-lane (I-80 TDS)
Forest Grove Drive (west City Limit - east City Limit)	Reconstruction; 3-lane/5-lane (I-80 TDS)
Wells Ferry Road (Forest Grove Drive – 220th Street)	Reconstruction; 3-lane/5-lane (I-80 TDS)
220th Street (west City Limit – Wells Ferry Road)	Reconstruction; 3-lane/5-lane (I-80 TDS)

Several primary streets are scheduled for reconstruction due to age and performance of the pavement. Generally, the roadways that are reconstructed in Bettendorf are replaced in kind with the new pavement.

The City has identified the streets in **Table 1.4** and **Figure 1.5** that are scheduled to be modified at the time of reconstruction.

The portions of **Utica Ridge Road** and **Middle Road** identified below are planned to be reconstructed as 5-lane sections (two lanes in each direction with a center two-way left turn lane). The addition of the center two-way left turn lane will increase the safe operation of the significant turning traffic along these roadways. The current 4-lane sections provide adequate capacity, but the improvements will add even more capacity and enhance safety along the corridors.

Tanglefoot Lane has been identified by the City as a bicyclist corridor and was recently reconstructed between 18th Street and Devils Glen Road as a 3-lane section with bicycle lanes in each direction. As Tanglefoot Lane is reconstructed (due to age and pavement failure), the City plans to continue to use the 3-lane section with bicycle lanes in each direction.

18th Street has been identified as a potential bicyclist corridor as well. 18th Street between Duck Creek and 53rd Avenue should be converted from the current 4-lane section to a 3-lane section with bicycle lanes in each direction. Safety would be improved due to the addition of dedicated left turn lanes at all major intersections along the corridor and the traffic calming that is provided by decreasing through travel lanes from two to one in each direction.

Table 1.4: Reconstruction Modifications

Project	Scope
Utica Ridge Road (Spruce Hills Dr – Tanglefoot Ln)	Reconstruction; 5-lane
Middle Road (I-74 – Norwood Dr)	Reconstruction; 5-lane
Tanglefoot Lane (Utica Ridge Rd – 18th St)	Reconstruction; 3-lane
18th Street (Middle Rd to 53rd Ave)	Reconstruction; 3-lane

Although not scheduled for reconstruction at this time or identified as needing any capacity improvements, **Devils Glen Road**, between State Street and 53rd Avenue, should be evaluated in the future for potentially adding left turn lanes and/or adding a center two-way left turn lane if congestion or crash issues arise. Devils Glen Road will likely become a major north/south route as development occurs in the northern part of Bettendorf.

Tanglefoot Lane, between Devils Glen Road and Middle Road, would need to be widened to accommodate bicycle lanes if the City pursues Tanglefoot Lane as a bicycle route throughout Bettendorf.

Access control along Bettendorf's street system is important to balance adequate access to residential, commercial, and industrial properties with the safe and efficient movement of traffic. **Table 1.5** indicates recommended intersection and driveway spacing per roadway classification. It is suggested access not

be permitted onto arterials from corner residential properties, but instead, to provide access on the lesser classified street.

Table 1.5: Recommended Intersection and Driveway Minimum Spacing

Functional Classification	Driveway Distance From Intersections (Ft)	Distance Between Driveways Opposite Side of Street (Ft)	Distance between Driveways Same Side of Street (Ft)	Distance Between Intersections (Ft)	Median Crossings
Principal Arterial (w/o median)	300	150	300	600	N/A
Minor Arterial (w/o median)	300	120	120	300	N/A
Collector (w/o median)	150	120	120	300	N/A
Any Street (with median)	150	N/A	N/A	N/A	600

The City has adopted a goal to keep the surface, curbs, and shoulders of nearly 200 miles of streets in good repair. The City budgets significant funding annually towards street maintenance type activities, which include curb and gutter replacements, the standard pavement management program, and other maintenance activities. The City conducts an ongoing pavement management program and uses a Pavement Condition Index to track street condition.

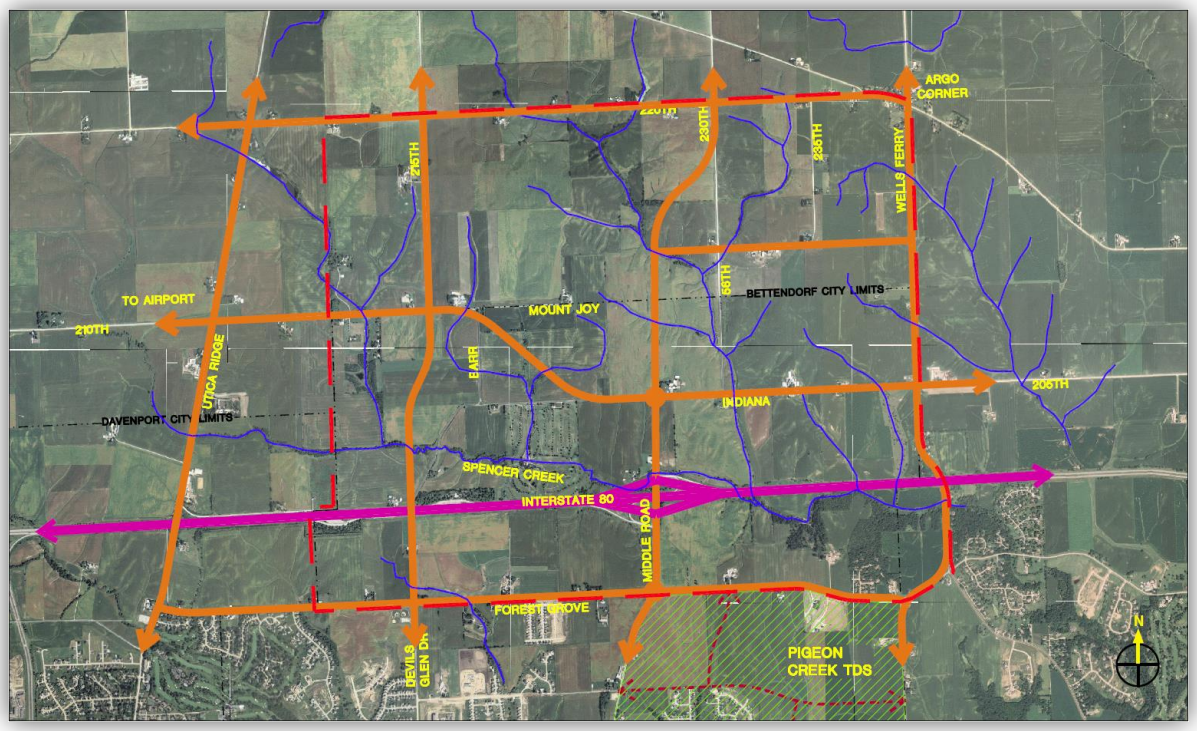
I-80 Transportation Development Strategy

The region extending to the north of the I-80/Middle Road interchange is an area of particular interest for future development according to Bettendorf's Comprehensive Plan. A Transportation Development Strategy (TDS) was performed to establish a plan to develop the area for growth into the future. The TDS study area is illustrated on the next page. The preferred network alternative for the study area consists of 10 subdivisions totaling over 5,000 acres. This alternative utilizes existing traveled ways to provide east-west and north-south movements and maximizes use of existing right of way.

Currently, developers are in the process of procuring land in the southeast, and southwest quadrants of the Middle Road interchange totaling over 500 acres of residential property. Additionally, 117 acres of business development to the northeast of the interchange are available immediately.
The primary arterial network identified in the TDS would be constructed or improved as development occurs or as existing streets need reconstruction.

Because of the inability to accurately determine future traffic projections prior to development occurring, it is recommended to construct the network as a three-lane roadway with flexibility to be widened to a five-lane roadway if and when traffic volumes necessitate. Intersections of the primary arterial system were recommended to be either signalized intersections or roundabouts, depending on specific locations, access needs, and traffic volumes.

I-80 Transportation Development Strategy Recommended Alternative



I-80 & Middle Road Interchange

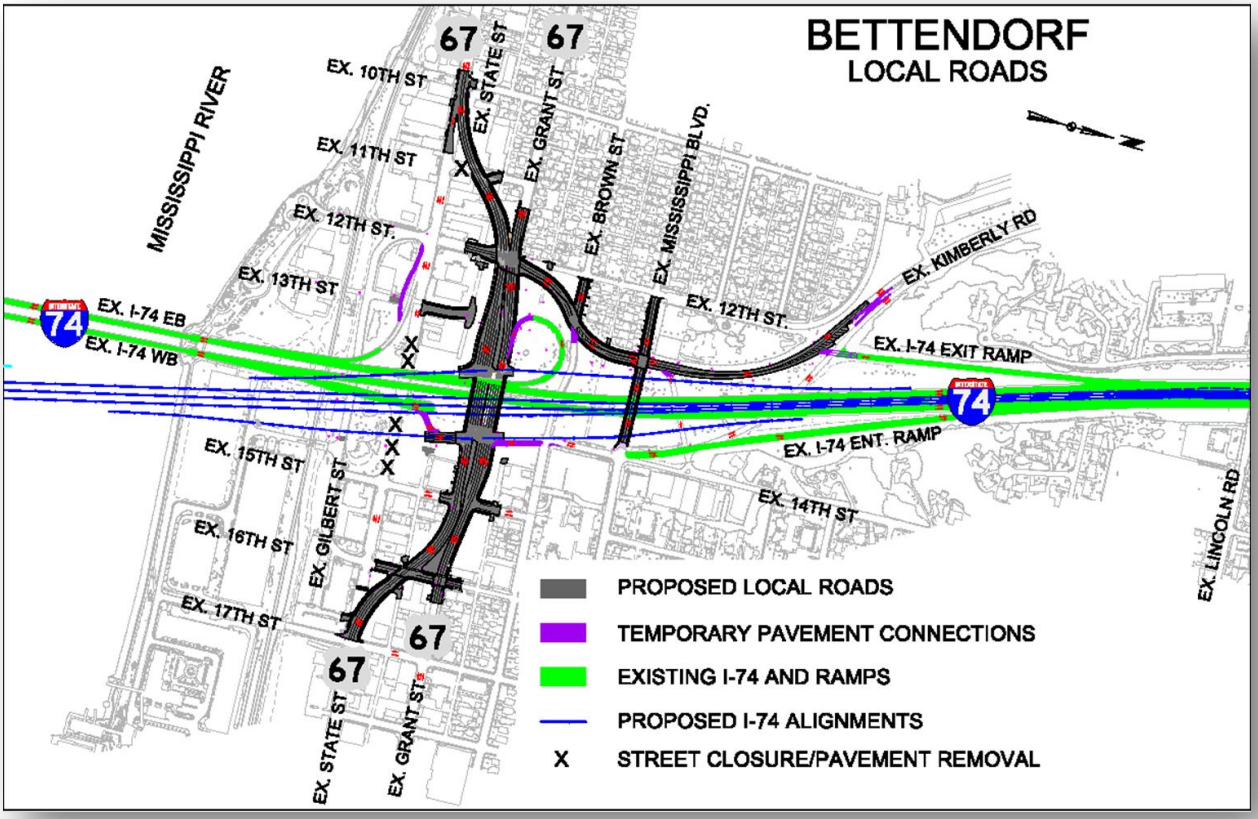
An Interchange Justification Report was initiated in 2008 and is currently underway to determine improvements to the I-80/Middle Road Interchange. The Middle Road / I-80 Interchange Justification Report is being finalized over the next several months. The proposed interchange improvements are necessary in order to:

- Update interchange geometry to current design standards
- Provide for planned expansion of the arterial street system consistent with the planned local roadway network.
- Improve capacity at the interchange location to accommodate growth
- Maintain or improve freeway travel performance
- Improve freeway access to/from existing and planned development for regional and local travel

The upgrade of the existing interchange is listed in the 2040 Quad Cities Long Range Transportation Plan as a project in the 2020 to 2040 time frame and is a fiscally constrained project in the LRTP according to the Bi-State Regional Commission. However, the project is not currently included in the State's STIP and there is currently no programming for the design or construction phases of the project in the City's CIP.

I-74 Corridor Improvements

A significant project to improve the I-74 corridor beginning south of 23rd Avenue in Moline and ending north of 53rd Avenue in Davenport is currently underway. The following proposed changes to the roadway system in Bettendorf are currently under design as a part of the project:



- The interchange at State Street/Grant Street would be reconstructed including modifications to the Bettendorf Street system under the bridge. Modifications would include re-aligning State Street to the north, closing the Kimberly Road and Brown Street underpasses, converting Grant Street to two-way operation, and developing an interchange of I-74 at Grant Street.

- The interchange at Middle Road would not be significantly modified from its current configuration.

- The interchange at Spruce Hills Drive would include the relocation of the NB I-74 ramps to the west, providing additional space between the ramps intersection and the Utica Ridge Road intersection.

Downtown Streetscape Project

In 2008, the City performed a study to look improvements to the streetscape downtown. The motivation for the study came from the desire by community leaders for a focused planning effort for downtown as a result of the I-74 realignment/bridge construction project. Some of the key elements included implementing traffic calming and connecting trails/greenways from downtown to the River south and greenways/trails through the downtown along State and Grant Streets.

Streets and Highways - Recommended Actions

1. Apply intersection and driveway minimum spacing recommendations in conjunction with street reconstruction and construction on new alignments.

2. Implement capacity improvement projects and connectivity/economic development projects to provide efficient movement of traffic as development continues in the eastern and northern areas of Bettendorf.

3. Complete the modifications to the planned reconstruction projects to provide additional safety for turning movements along busy corridors and to provide bicycle lanes for routes identified by the City.

4. Acquire right-of-way to protect corridors for future transportation projects which are identified in the Transportation Plan.

2. Mississippi River Crossings

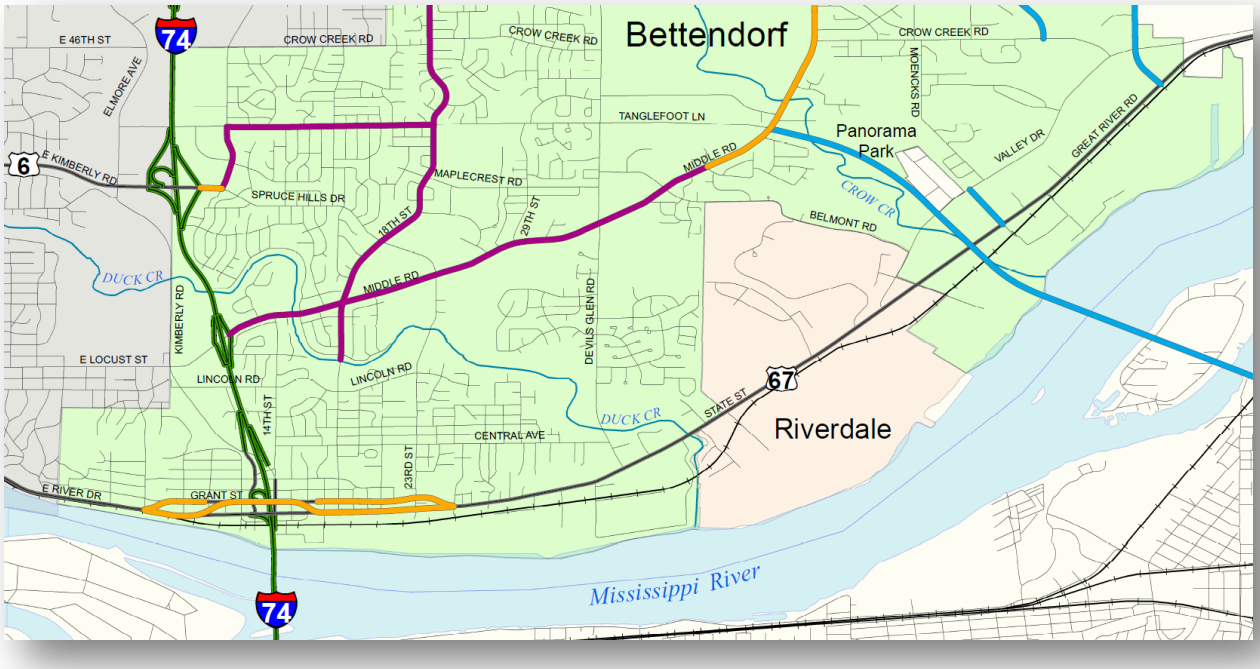
River crossings continue to be a critical component to the transportation system in the Quad Cities. These crossings are often a common source of congestion due to maintenance activities, accidents and peak hour traffic on the bridges connecting the Quad Cities. In 1998, the Iowa and Illinois DOTs participated in a Mississippi River Crossing Study which examined long-term crossing needs. Recommendations of the study included the removal of the tolls on the Centennial Bridge (implemented in 2003); widening of the I-74 Bridge; and construction of a new bridge between Bettendorf and East Moline.

Two of the recommendations affect the City of Bettendorf: I-74 and the proposed new bridge to East Moline. The I-74 Bridge carries more than 70,000 AADT and has been over capacity for many years. Additionally, the bridge is not constructed to current design standards. There are no shoulders, and the ramps nearest the bridge have inadequate weaving capacity and limited queuing capacity. While it is possible to widen bridges, extensive strengthening of the support structures and lengthened construction schedule to maintain service would be required. These costs along with other improvements to restore the bridge to current standards do not make this alternative a desirable solution. Instead, a new bridge will be constructed directly to the east of the existing bridges.

In 2009, the Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) were received by the FHWA, approving the selected design alternative. The new I-74 Bridge will consist of two independent arch structures (eastbound and westbound) with three 12 ft. lanes plus an auxiliary lane for emergency vehicles. A separated path for bicycles and pedestrians will also be included on one of the structures.

I-74 River Bridge Rendering

The project is currently in the final design phase and work has already begun on other parts of the corridor to address access issues. The bridge over I-74 at Lincoln Road was completed in 2009 and construction has commenced on the interchange at 53rd Street. Pending funding, construction of the I-74 Bridge is estimated to take several years to complete.



Potential Tanglefoot Lane Bridge

As stated previously, an extension of Tanglefoot Lane would likely serve as the northern approach for a future bridge between Bettendorf and East Moline.

Mississippi River Crossings - Recommended Actions

1. Continue to work with the Iowa and Illinois DOT on necessary modifications to the riverfront area, city street system, and entrance/exit ramps to accommodate the I-74 improvements.

2. Pursue regional cooperation to study the feasibility of a proposed bridge between I-74 and I-80, with the northern approach likely aligning with an extension of Tanglefoot Lane and funding mechanisms to employ in that process.

3. Rail

Currently three rail companies serve the Quad City area. The Canadian Pacific Railway (DM&E), the Burlington Northern Santa Fe Railroad, and the Iowa Interstate Railroad all provide connections with other markets. The Canadian Pacific Railway (DM&E) specifically travels through the City of Bettendorf along the Mississippi River and serves freight needs to commercial and industrial customers. Approximately 12 - 16 trains use this line daily with additional unit trains carrying coal, grain, rock, ethanol and other goods on an as needed basis. The Canadian Pacific Railway serves Americold Logistics, Barton Solvents, Berry Plastics, Mid American Energy, and Olympic Steel in Bettendorf.

Because of delays caused by switching operations in the downtown business district, the City is still considering an overpass over the railroad tracks. Pursuant to the "Amended and Restated Conference/Events Center Development Agreement" dated July 18, 2006 with the Isle of Capri, the overpass will be located at 23rd Street.

Downtown Railroad Corridor

Through federal grants obtained in 2010, plans are moving forward to establish high speed passenger rail service from Chicago to Iowa City via the Quad Cities and eventually service to Omaha. Feasibility studies were conducted in 2007 and 2008 by Amtrak, Iowa and Illinois Departments of Transportation. Highlights of the previous studies include the following:

- Two daily round trips
- Initial maximum speed is 79 MPH
- Travel time under five hours one way
- Projected annual ridership is 246,800 for 2015
- Overall project costs would be $310 million
- FRA has awarded $230 million under the HSIPR program
- Agreements in principle with Iowa Interstate Railroad, BNSF Railway, and Amtrak
- Upgrades over 70 highway-rail crossings in Iowa

There is currently a *Chicago to Omaha Regional Passenger Rail System Planning Study* underway by the Federal Railroad Administration in cooperation with the Iowa DOT. The study is intended to evaluate potential route alternatives, evaluate level of service and ridership, analyze environmental impacts, and determine a preferred Chicago to Omaha passenger rail route alternative. The study is scheduled to be completed in Spring 2013.

Passenger Rail Study Corridors

Rail - Recommended Actions

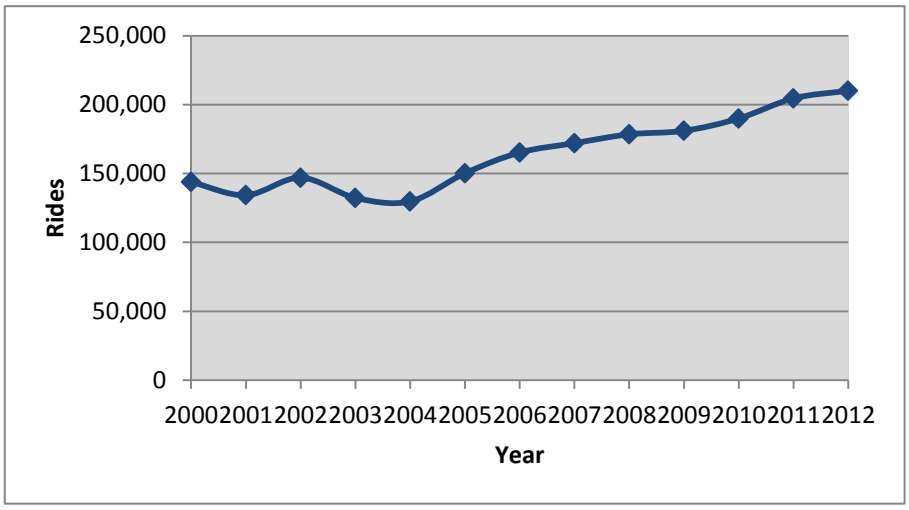
1. Continue to participate in the Quad Cities Passenger Rail Coalition.

2. Monitor Canadian Pacific at-grade crossing operations at city streets for traffic congestion and/or safety concerns. Continue to investigate an overpass over the tracks downtown.

4. Transit

The Bettendorf Transit System currently operates five fixed routes with nine 35-passenger vehicles, all of which are wheelchair lift-equipped and fully compliant with ADA requirements. In addition, the City owns and operates four 35-passenger busses operated on the Loop riverfront circulator route. The goal of the transit system is to provide, properly operated transit services to the elderly, disabled, and general public citizens of the City of Bettendorf. Refer to **Figure 4.1** for a map of the current transit routes within Bettendorf.

Bettendorf Transit Ridership History



Source: 2040 Quad Cities LRTP

Ridership over the past several years has experienced an increase from approximately 140,000 rides per year in 2000 to approximately 210,000 rides per year in 2012. The recently completed Quad Cities Long Range Transportation plan estimates that ridership on the Bettendorf Transit system could reach nearly 500,000 by 2040.

The routes operate with 30-minute headways and circulate out from the Bettendorf Hub located at State Street and 20th Street. All five routes provide local transit service within the City of Bettendorf. The routes provide service to the most densely populated areas of the City of Bettendorf as well as to most major activity centers. These activity areas include shopping destinations, groceries, senior housing, public service buildings, cultural and sporting activities, parks, major employers, employment agencies, apartment complexes, hospitals, medical and social services, and several schools.

Bettendorf Transit also provides connections to the other two Quad City Transit Systems via Route 1 (Red Route). Links to two Davenport (Citibus) routes are available at the Bettendorf Hub. Connections can also be made with six Rock Island (Metrolink) routes at the Centre Station in downtown Moline, Illinois.

Service for Bettendorf's five routes generally operates from 6:00 A.M. to 6:00 P.M., Monday through Friday with 30 minute headways. Saturday route service is contracted through River Bend Transit, and

operates routes 1 through 5 hourly from 8:30 A.M. to 5:30 P.M. Route 5 runs every thirty minutes on Saturday from 8:30 A.M. to 5:30 P.M.

The Dial-A-Bus element of Bettendorf's Transit System provides service to those areas of the community unserved by the fixed routes and complies with the Americans with Disabilities Act (ADA) requirements. This demand response service is provided under contract with a private provider, currently River Bend Transit. The Dial-A-Bus service is lift-equipped and provides supplemental transportation for the general public and elderly and/or disabled persons not able to effectively use fixed-route service. The general public may use this service if their trip originates more than two blocks from the route service and scheduling does not interfere with the requests of a disabled paratransit-certified person. The service is now provided by one vehicle operating from 6:00 A.M. to 6:00 P.M. weekdays and from 8:30 A.M. to 5:30 P.M. on Saturdays. Riders must call in advance for the service, but may be able to arrange for sameday service whenever possible.

An additional service element of the Bettendorf Transit System is availability of bicycle racks provided on all Bettendorf transit busses including those designated to the Loop Riverfront route. Specially designed racks mounted on the busses allow cyclists to take their bicycles with them along the transit routes. This provides a method for cyclists to cross I-74 between Bettendorf and Moline prior to the completion of the new I-74 Bridge. A maximum of two bicycles can be carried on each bus at no extra charge.

Under federal regulations, replacement of transit buses and vans is allowable at either minimum mileage or service life depending upon the classification of the vehicle. Regulations also state that up to a maximum of 83% of the cost of the vehicles is allowable with Federal Section 5307 funds if the vehicles are ADA equipped and comply with the Clean Air Act. The City typically replaces vehicles as they meet the Federal Transit Administration's (FTA) Minimum Service-Life Policy as shown in **Table 4.1.**

Table 4.1: FTA's Minimum Service Life for Buses and Vans

Category	Typical Characteristics				Minimum Life (whichever comes first)	
	Length	Approx. GVW	Passengers	Average Cost	Years	Miles
Heavy-Duty Large Bus	35 to 48ft and 60ft artic.	33,000 to 40,000lbs	27 to 40	$325,000 to over $600,000	12	500,000
Heavy-Duty Small Bus	30ft	26,000 to 33,000lbs	26 to 35	$200,000 to $325,000	10	350,000
Medium-Duty and Purpose-Built Bus	30ft	16,000 to 26,000lbs	22 to 30	$75,000 to $175,000	7	200,000
Light-Duty Mid-Size Bus	25 to 35ft	10,000 to 16,000lbs	16 to 25	$50,000 to $65,000	5	150,000
Light-Duty Small Bus, Cutaways, and Modified Vans	16 to 28ft	6,000 to 14,000lbs	10 to 22	$30,000 to $40,000	4	100,000

Source: FTA Report - Useful Service Life of Transit Buses and Vans

In addition, Bettendorf participates in the Bi-State Region Air Quality Task Force. The mission of the Task Force includes attainment for National Ambient Air Quality Standards providing communication between public and private entities on voluntary emission reduction measures The Task Force also supports associated individual and group measures/activities. Iowa Clean Air Attainment Program funds were attained to aid in the formation of The Loop transit program, additional transit routes between Bettendorf, Davenport, and the Illinois Quad Cities.

Federal funds are received from the Federal Transit Administration for the Quad City Area. The Bi-State Regional Commission sub-allocates these funds to the three transit systems. Federal funding may be spent on capital and preventative maintenance. Federal funds for operating are allocated by the State on an annual basis. In FY 2010, the total operating costs for the Bettendorf Transit System was $1,420,038, with $558,540 in federal assistance and the remaining share from state and local governments. Annual ridership was approximately 210,151 in FY 2012.

Based on a past Transit Alternatives Analysis, route and service expansions were recommended along with the investigation of new technologies. One such technology includes bus rapid transit (BRT). Through this proposed system a grid network would operate primary North/South lines and East/West lines. A BRT system combined with the implementation of signal preemption would create an even more efficient transit system to move larger quantities of passengers with fewer delays. Implementation of such a network would require a joint effort with local transportation municipalities.

Transit - Recommended Actions

1. Ensure existing or increased level of service through vehicle replacement and other advancements to the fleet.

2. Monitor future development and demand for service extensions to new activity areas. *Currently, Bettendorf Transit is working with Bi-State to review and improve bus routes through the City.*

3. Continue to participate in Bi-State Region Air Quality Task Force.

4. Participate in discussions with other Quad City communities and monitor study results to determine timing and feasibility for a potential Quad City Regional Transportation Initiative.

5. Air

The Quad City International Airport (QCIA), located in Moline, Illinois, is the Federal Aviation Administration "certified air carrier" for Bettendorf and the Quad Cities. Currently, five airlines operate out of QCIA, providing 60 arrivals and departures daily to 12 major national hubs. Connections are offered to all national and international destinations. The airport also serves as a U.S. Customs Port of Entry and is located in Foreign Trade Zone 133. **Table 5.1** illustrates the location, FAA rating, and runway lengths of the two public airports serving the Quad Cities.

Table 5.1: Regional Airports Classification

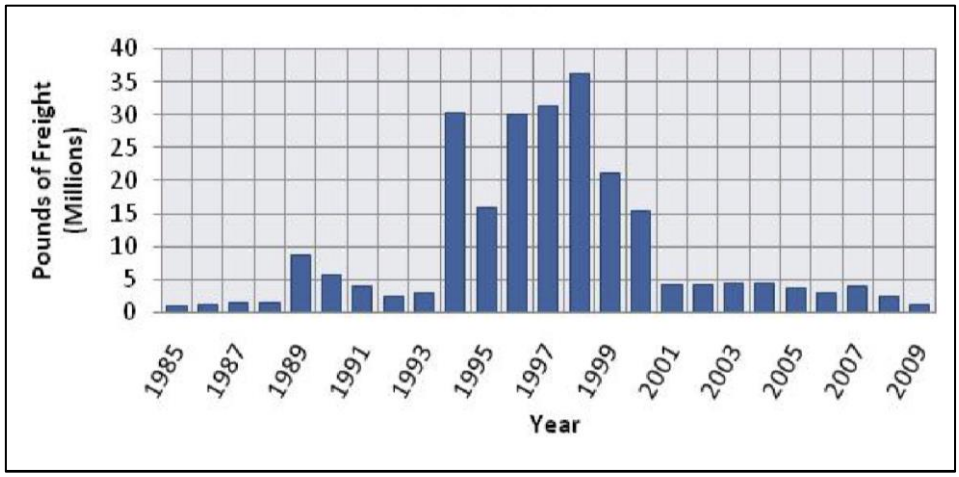
Airport	Location	FAA Category	Highway Access	Runway Lengths
Quad City International	Moline, IL	Certified Air Carrier	I-74, I-280, US 6, US 150	10,000ft, 7,000ft, 5,000ft
Davenport Municipal	Davenport, IA	Basic Transport	I-80, US 61	5,500ft, 4,000ft

Source: QCIA Officials & Davenport Municipal Airport Master Plan Update

Passenger growth has increased from 761,000 passengers in FY '00 to 925,000 passengers in FY '09, a 21.5% overall increase. Future growth is expected to remain steady at 6% increase in passenger volume over following years according to the Quad City Metropolitan Airport Authority. Recent facility improvements completed in 2000 consist of a new entrance directly off of I-74, expanded parking facilities, and terminal enlargements. The QCIA also has immediate plans for major runway and taxiway improvements over the next several years. These improvements include an extension of primary and secondary runways, upgraded navigational aids, increased parking, and new hanger construction.

During the middle to late 1990's, the volume of air freight handled at the Quad City International Airport ranged between 15 million and 38 million pounds. Freight volumes have fallen below 10 million pounds annually since 2001. Even with significant improvements made by the QCIA in recent years, air freight has significantly decreased due to the major shift to trucking. Currently, only the most time-critical products are shipped by air, typically when the shipment needs to travel a long distance to its destination. The facility improvements discussed previously will work to promote freight competitiveness; however, prospects for increasing fright services are highly dependent on future contracts.

QCIA Total Freight 1985 - 2009



Source: 2040 Quad Cities LRTP

Davenport Municipal Airport

The Davenport Municipal Airport is located in Davenport, Iowa and is a reliever airport providing a full service, fixed-base operation and one runway with a full instrumentation landing system. In addition the Iowa National Guard Aviation Support Facility is located at the Davenport Municipal Airport. In FY 2010, $2 million in funds were secured to construct a new 5,000 square foot addition to the existing aircraft hangar. The addition will be used for personnel training and aircraft maintenance. Roughly 100 personal aircraft housed at the Davenport Municipal Airport and approximately 25,000 take-offs/landings per year. Improvement plans for the Davenport Municipal Airport include a new 20,000 square-foot hanger and an 8,000 square-foot administrative facility. The main runway, 15/33 and cross-runway 3/21, will each be extended to 7,000 ft. to attract regional jets and other larger aircraft in future years.

6. Waterway

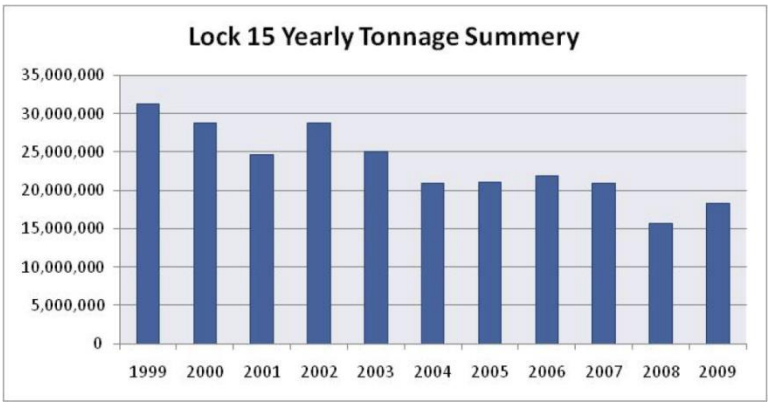
The Mississippi River continues to serve efficient and economical movement of goods and services to and from Bettendorf and the Quad Cities. Lock and Dams 14 and 15 fall within the Quad City portion of the river. In 2004, the U.S. Army Corps of Engineers completed a $44 million feasibility study to examine navigation improvements to 29 locks (including lock and dams 14 and 15) and 854 miles of the Upper Mississippi River System. The study reported a need for increased capacity at Lock and Dam 15 by widening the guide walls. It also suggested moorings be installed at Lock and Dam 14 so tows could wait closer to the lock when it is in use (Upper Mississippi River-Illinois Waterway System Navigation Study). Not only would this update the current system to accommodate new, larger barges, but it would also decrease delays and time spent passing through the locks.

As part of the inland waterway system, the Mississippi River provides the Quad Cities with a link to Mississippi tributaries, the Gulf of Mexico, the Great Lakes, and connections to foreign ports. The navigation season typically lasts just over 10 months for the portion of the river in the Quad Cities. Tows will operate, however, as long as there are commodities to move and ice conditions do not present serious risks. While barge transportation requires more shipping time than other forms of transport and the navigation season is limited, the lower shipping rates and energy efficiency of this mode of transportation provide a significant cost savings to bulk material shippers. **Table 6.1** lists the barge terminals located in the City of Bettendorf.

Table 6.1: Bettendorf Barge Terminals

Terminal	Commodity
Bettendorf Terminal Company	Sand
Conoco Phillips Pipe Line Company	Petroleum
Continental Cement Company	Cement
Flint Hills Resources, LP	Petroleum
BP Products North America	Petroleum
River Gulf Grain	Grain

Historic tonnages of cargo moved through Lock and Dams 14 and 15 have shown a downward trend since1999. Typical barge tows can be as many as five barges long and three wide. At 200 foot long and 35 foot wide per barge, the barge tow will need to separate and pass through the lock and dams twice. This causes increased shipping costs incurred due to delays. Physical upgrades to Lock and Dams 14 and 15 will help to minimize delays and decrease costs to shippers.



Source: US Army Corps of Engineers OMNI Report on Lockage and Tonnage

An additional water transportation mode is the Channel Cat Water Taxi, operated by MetroLINK. The two soy powered diesel boats allow users to enjoy the river while providing access to recreational trails and activity centers along the waterway. Stops are made at John Deere Commons in downtown Moline, the Celebration Belle in Moline, the Quarter in East Moline, Isle of Capri Casino in Bettendorf, and the Village in East Davenport. The boats hold 48 passengers, run 7 days a week, and operate from May through September. In addition, both crafts are handicap accessible and equipped with bike racks.

The Bettendorf Park Board maintains two public boat access sites at Leach Park and Eagles Landing Park. The accesses may be used by both motorized and non-motorized vehicles although actual usage counts are not taken at the boat accesses.

Waterway - Recommended Actions

1. Support the ongoing activities of the Channel Cat Water Taxi.

2. Support Bettendorf's Park Board efforts to maintain and enhance boat access to the river.

7. Sidewalks

Sidewalks are an integral part of the transportation system; linking residential, commercial, recreational, school, and City properties. Sidewalks on streets provide pedestrian and bicyclist linkages to other systems such as trails and bicycle lanes.

Bettendorf desires to provide a safe sidewalk surface during all seasons. Although the City does not assess for replacement of existing sidewalk, Bettendorf's Subdivision Ordinance requires that sidewalks be built on both sides of the street and that the adjacent property owner is responsible for the construction of 4' of the sidewalk. Any additional width is paid for by the City.

Bettendorf is currently finalizing a Citywide Bicycle Facility Study which recommends the installation of 5' wide sidewalks on both sides of any new street and 6' sidewalks on both sides of any new street that is designated as a shared vehicular/bicycle facility. See **Figure 8.1** for the existing and proposed future sidewalk locations in Bettendorf.

The City spends a significant amount of money on sidewalk construction and maintenance annually. The majority of sidewalk improvements needed to meet accessibility requirements have been completed. City will continue to address issues such as blind pedestrians at street crossings, wheel chair access to on-street parking, and other constraints posed by space limitations, roadway design, and terrain.

To help identify responsible parties for installation and maintenance of sidewalks where gaps exist in the developed portions of the city, a sidewalk scoring system was developed to provide a guideline for such installations (see **Table 7.1**). Sidewalk scoring is based on proximity to various uses, streets, traffic, and other sidewalks. Scores of 70 or more are currently recommended for sidewalk installation as a guideline.

Table 7.1: Sidewalk Scoring System

Sidewalk Proximity To:	Criteria	Score
Schools	Greater than 2,000’	10
	1,500’ to 2,000’	15
	Less than 1,500’	30
Shopping Areas	Greater than 1,500’	5
	1,000’ to 1,500’	8
	Less than 1,000’	10
Parks	Greater than 2,000’	10
	1,500’ to 2,000’	15
	Less than 1,500’	20
Recreation Areas	Greater than 500’	5
	200’ to 500’	8
	Less than 200’	10
Churches	Greater than 500’	5
	200’ to 500’	8
	Less than 200’	10
Traffic on Adjacent Streets	Arterials	20
	Collectors	15
	Thru Local	10
	Other Local	5
Continuity with existing sidewalks	No sections with sidewalks	5
	Several sections w/o sidewalks	8
	Only section w/o sidewalk	10
Existing pedestrian traffic	No evidence of use	15
	Some evidence of use	20
	Well-worn path	30
Traffic Signals	Greater than 500’	5
	200’ to 500’	8
	Less than 200’	10
Alternate pedestrian routes	Sidewalks across the street	15
	Shoulders/Parking lanes	20
	No alternate pedestrian route	25

Source: City of Bettendorf

Sidewalks - Recommended Actions

1. Incorporate sidewalks into roadway projects where applicable to enhance pedestrian connectivity throughout Bettendorf.

2. Continue sidewalk inspection program and repair defective sidewalks and curb cuts.

3. Provide pedestrian-actuated signals to ensure pedestrian safety at signalized intersections along major roadways.

4. Continue to use City sidewalk scoring system to determine need for sidewalk installation.

5. Review pedestrian safety and accessibility for sidewalk crossings of major roadways in Bettendorf including pavement markings, striping, geometric improvements, or hybrid pedestrian signals.

6. Continue to monitor proposed Public Right-of-Way Accessibility Guidelines (PROWAG) standards.

8. Trails and Bicycle Lanes

American Discovery Trail

There are numerous trail systems throughout the Quad Cities, serving both a recreation and a transportation purpose. Trails extend along the Mississippi Riverfront in both Iowa and Illinois. In addition, trail connections are being made to the Hennepin Canal Trail in Illinois and eventually to the Hoover Trail in Iowa. These trails are part of the American Discovery Trail, which would extend from the east coast to the west coast with a Mississippi River crossing in the Quad Cities, and the Mississippi River Trail, providing 3,000 miles of pedestrian and bicyclist pathway from Itasca, Minnesota to the Gulf of Mexico.

Mississippi River Trail

There are numerous existing and planned facilities throughout Bettendorf to accommodate pedestrian and bicyclist traffic without the use of a motorized vehicle. The non-motorized system consists of **Sidewalks, Separated Trails,** and on-street **Bicycle Lanes**.

Figure 8.1 includes existing and planned sidewalks, trails, and bicycle lanes as recommended by the Citywide Bicycle Facility Study that is currently being finalized.

Separated Trail Design

There are several guidelines available that should be referenced when designing separated trails including the Iowa Statewide Urban Design Standards Manual, the AASHTO Guide for the Development of Bicycle Facilities, and the Manual on Uniform Traffic Control Devices. The general guidelines in **Table 8.1** should be followed for separated trail design in Bettendorf. **Figure 8.2** includes a typical section of a trail off of the street network in Bettendorf.

Existing and future trails located away from the street system in Bettendorf include the Downtown Recreation Trail, Mississippi Riverfront Trail, Crow Creek Trail, and the Duck Creek Trail. Trails either

exist or are proposed along most of the major streets in Bettendorf. Refer to **Figure 1.6** for typical roadway sections that include separated trails.

Table 8.1: Separated Trail Design Guidelines

Design Criteria	
General	
Trail Width	8 - 10 ft
Shoulder Width	3 ft
Lateral Clearance	2 - 3 ft
Setback from Edge of Street	5 ft min.
Vertical Clearance	10 ft
Design Speed	
Minimum Grades	20 MPH
Grades > 4% and longer than 500’	30 MPH
Surface Thickness	
PCC	5 in
HMA	5 in
Minimum Horizontal Radii	
20 MPH	90 ft
30 MPH	260 ft
Maximum Length of Grades	
0-5%	Unlimited
5%-6%	800 ft
7%	400 ft
8%	300 ft
9%	200 ft
10%	100 ft
11%+	50 ft

Source: Iowa Statewide Urban Design and Specifications & City of Bettendorf

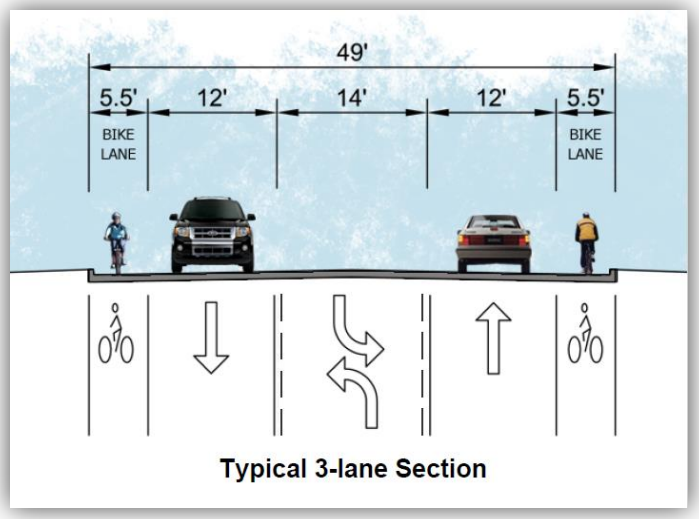
Bicycle Lane Design

On-street bicycle lanes are being incorporated to new and existing street systems throughout the Midwest as communities strive to provide facilities for all types of transportation for their residents. Bettendorf has commenced with the addition of bicycle lanes on recent roadway projects and is planning to continue to provide bicycle lanes where appropriate. **Figures 8.3 through 8.7** include typical scenarios for bicycle lanes for various roadway configurations. In general, on streets identified by the City as bicycle routes, 5.5 ft to 6 ft bicycle lanes should be provided.

The addition of bicycle lanes to a street corridor will require additional pavement markings and signage. Where possible, a 6" white stripe should be used to delineate the bicycle lane to provide additional visibility to motorists. Bicycle lane pavement markings within the bicycle lane and signage should be installed per the Manual on Uniform Traffic Control Devices. Shared use lanes can include Shared Lane Use markings (Sharrows) and/or "Share the Road" signs where the City deems applicable.

Providing 5.5 ft to 6 ft bicycle lanes will accommodate the City's standard catch basin design that is located in the street, providing 2.5 ft to 3 ft of space for bicyclists adjacent to the intakes. Grates that are more friendly to bicycle tires could also be investigated for future projects.

Tanglefoot Lane has been identified by the City as a bicycle route, and was recently reconstructed between 18th Street and Devils Glen Road that included bicycle lanes.
18th Street between Duck Creek and 53rd Avenue should be converted to a three-lane section with bicycle lanes for north and south bicyclist travel. **Figure 8.1** includes additional corridors that are proposed to include bicycle lanes in the future.



Typical 3-lane Section

As streets are constructed or reconstructed and bike lanes are added throughout the City, it is recommended to provide on-street bicycle lanes on two or three-lane roadways, but not on five-lane roadways. Refer to **Figure 1.6** for typical roadway sections. Because five-lane roadways typically involve faster vehicular speeds and would require a greater crossing distance for left-turning bicyclists at intersections, it is recommended to provide an adjacent separated trail along these roadways rather than an on-street bicycle lane.

Trails and Bicycle Lanes - Recommended Actions

1. Complete separated trails and bicycle lanes as funding is available and as development occurs in the northern and eastern portions of Bettendorf.

Bettendorf 2010 Average Daily Traffic Volumes

Map prepared by:

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Figure 1.1

Bettendorf, Iowa
Transportation System

Quad Cities Long Range Transportation Plan
2020 ADT and 2040 ADT
with Federal Functional Classification (FFC)

Legend

Average Daily Traffic (ADT)

2020 ADT
2040 ADT

Federal Functional Classification (FFC)

- Interstates
- Expressway/Freeway
- Other Principal Arterial
- Minor Arterial (Urban)
- Collector (Urban)
- Minor Arterial (Rural)
- Major Collector (Rural)
- Minor Collector (Rural)
- Local
- Quad Cities MPO
- Corporate Boundaries
- County Boundaries
- Railroads
- Airports
- Rivers/Water Bodies

Note:
2020 ADT numbers are from 2020 Roadway Network which incorporates projects that city has suggested.
2040 ADT numbers are from 2040 Roadway Network which incorporates projects that city has suggested.
Data Sources:
FFC: IA DOT (2009) & IL DOT (2009)
Other data: Bi-State Regional Commission

Disclaimer: This map is for reference only. Data provided are derived from multiple sources with varying levels of accuracy. Bi-State Regional Commission disclaims all responsibility for the accuracy or completeness of the data shown hereon.

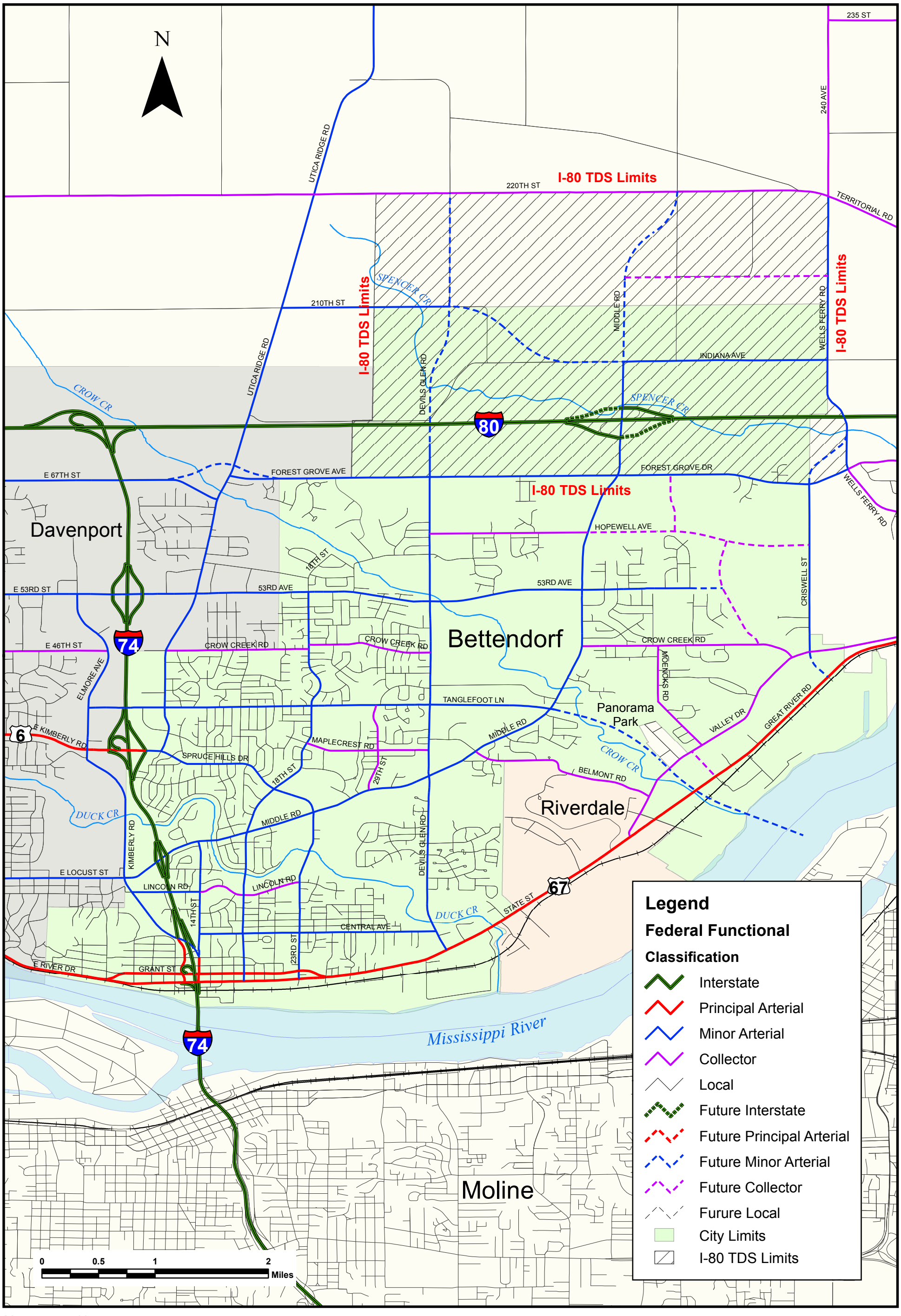
BETTENDORF
HAMPTON
RIVERDALE
Rock Island County, IL
Scott County, IA
Mississippi River

6700 8900
4700 7900
11100 14600
20900 26500
13100 17200
12100 15900
3200 4600
39100 54900
14500 19800
19900 25700
9100 12100
6100 7900
4900 7400
19900 24100
6100 8200
17200 19900
14900 19800
14900 19600
20400 27300
24100 28900
14400 19700
22900 28100
10300 16400
3600 5900
9800 12500
13800 17800
5500 7200
24200 27600
19100 24200
15900 20700
14900 19600
32600 43500
1100 4500
2600 5900
3300 11800
31200 40800
8100 15800
5600 7200
3800 7100
8600 15400
8900 16300
4900 8200
9600 17600
9800 14800
6600 8400
9100 12100
3200 6900
12800 17100
4600 7900
5200 8900
3800 6200
1900 2700
21900 27600

Map prepared by:
Bi-State Regional Commission
December 2011
Update: 4/2012

0 0.5 1 Miles

Bettendorf Functional Road Classification



Map prepared by:

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Figure 1.3

Bettendorf, Iowa Transportation System

MAP 4.11
Quad Cities Long Range Transportation Plan

Volume Over Capacity Ratio 2040 Traffic on 2010 Network

within Quad Cities MPO

*Note: A Volume over Capacity Ratio of 1.00 is defined as "at capacity." Any ratio over 1.00 is considered at or over capacity. The thresholds were chosen to show those roadways that are significantly over capacity (>=1.20) in red.

Data Source: Bi-State Regional Commission

N

Legend

Under Capacity Classifications

- 0.00 - 0.20
- 0.21 - 0.40
- 0.41 - 0.60
- 0.61 - 0.79

Volume over Capacity Ratio

- 0.80 - 0.99 (Near Capacity)
- 1.00 - 1.19 (At Capacity)*
- >=1.20 (Over Capacity)*
- Quad Cities MPO
- Corporate
- Boundaries
- County Boundaries
- Airports
- Rivers/Water Bodies

TERRITORIAL RD
205TH ST
INDIANA AVE
WELLS FERRY RD
WISCONSIN ST
I 80
35TH ST
CODY RD
67
CRISWELL ST
GREAT RIVER RD
County, IA
County, IL
Scott
Rock Island
State Ave
8th St
Hubbard Rd
84
158th St N
4th St
HAMPTON
20th Ave N
158th St N
20th St
Hillcrest Rd
3rd Ave
4th Ave
40th St
Morton Dr
19th
13th Ave
7th St
5th Ave
Mississippi
River
VALLEY DR
MOENCKS RD
PANORAMA PARK
NORWOOD DR
CROW CREEK RD
TANGLEFOOT LN
BELMONT RD
STATE ST
DEVILS GLEN RD
29TH ST
18TH ST
53RD AVE
BETTENDORF
RIVERDALE
FOREST GROVE DR
FOREST GROVE AVE
UTICA RIDGE RD
E 67TH ST
74
80
US 6
EY RIDGE RD
E 53RD ST
E 46TH ST
SPRUCE HILLS DR
MIDDLE RD
LINCOLN RD
CENTRAL AVE
23RD ST
14TH ST
GRANT ST
RIVER DR
E 11TH ST
E LOCUST ST
KIMBERLY RD
ELMORE AVE
JERSEY RIDGE RD
E KIMBERLY RD
E 29TH ST
W 35TH ST
BRIDGE AVE
BRADY ST
HARRISON ST
ONEIDA AVE
E RIVER DR

0 0.3 0.6 0.9 1.2 Miles

Map prepared by: Bi-State Regional Commission
June 22, 2011

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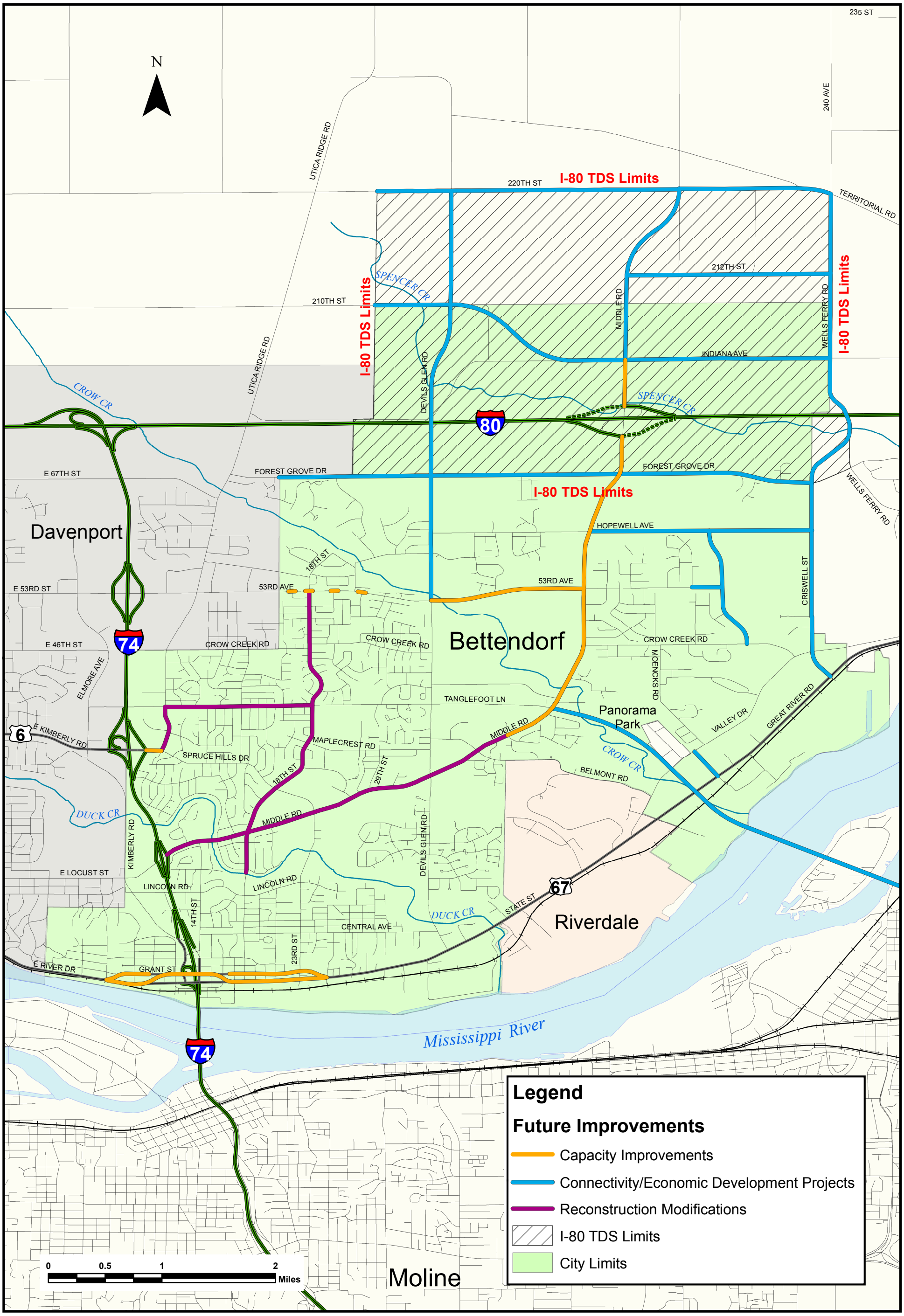
Bettendorf Future Improvements



Map prepared by:

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ARCHITECTURE + ENGINEERING

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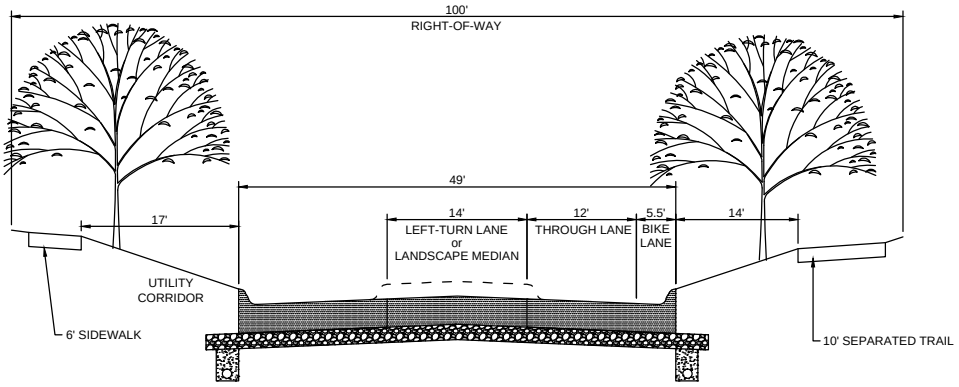
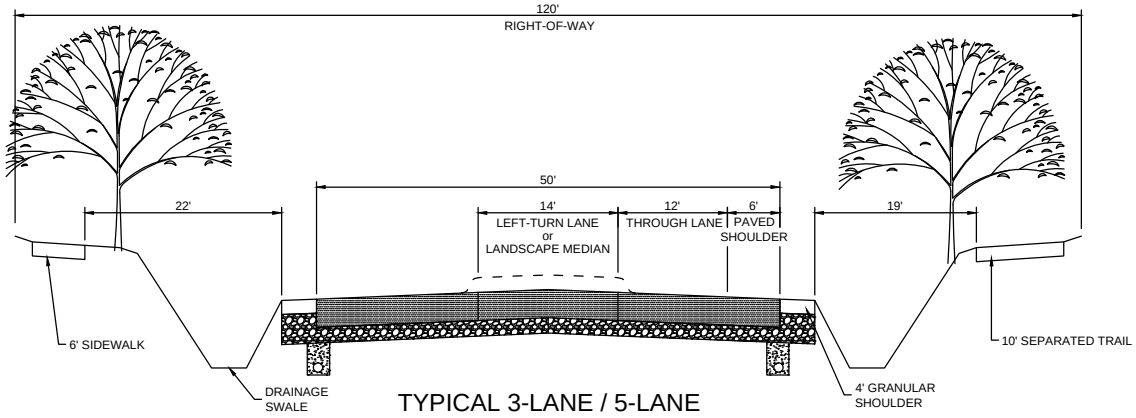
Figure 1.5

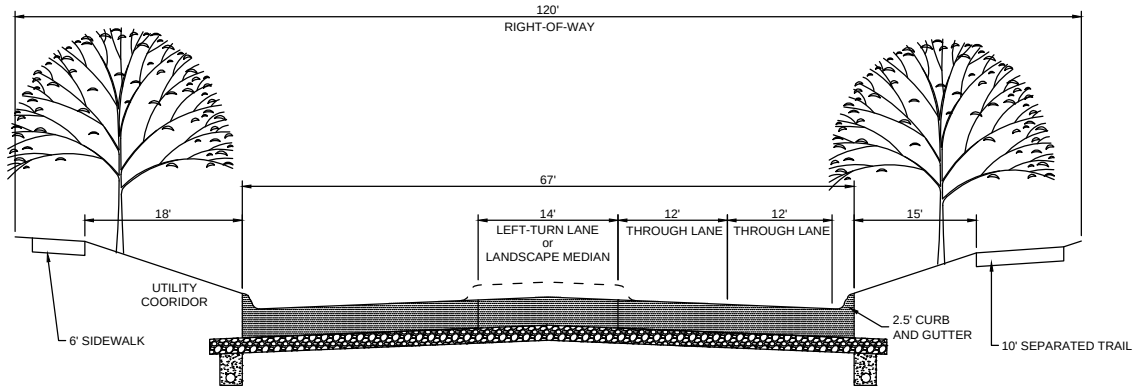
Bettendorf, Iowa
Transportation System



TYPICAL 3-LANE ROADWAY



TYPICAL 3-LANE / 5-LANE
INTERIM ROADWAY



TYPICAL 5-LANE ROADWAY

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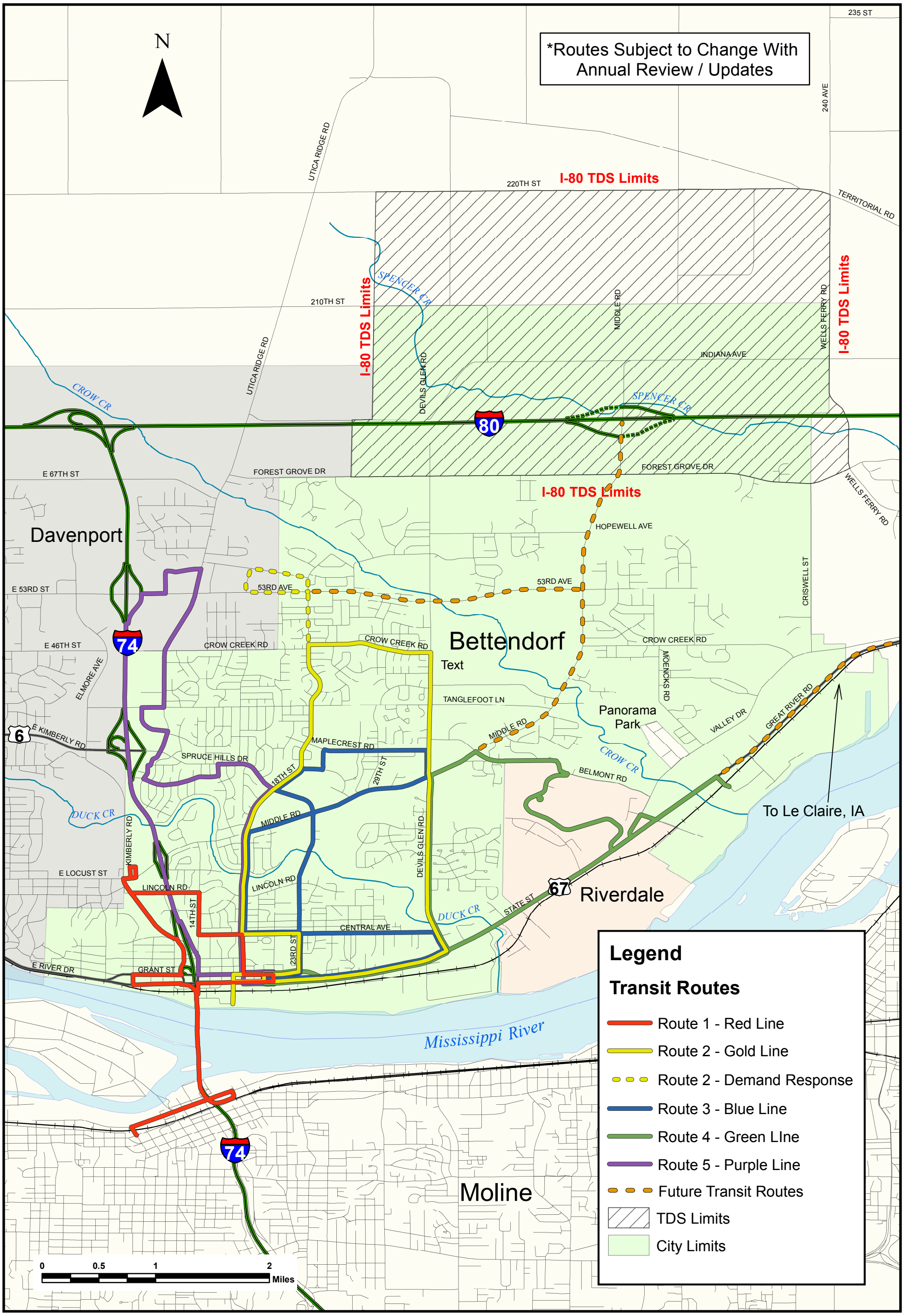
TYPICAL ROADWAY SECTIONS				PROJECT NO. 309285-0
DATE	03/25/13	SCALE	NONE	SHEET NO.
DRAWN	DRF	FIELD BOOK		FIGURE 1.6
APPROVED	BJW	REVISION		

Bettendorf Existing Transit Routes



Map prepared by:

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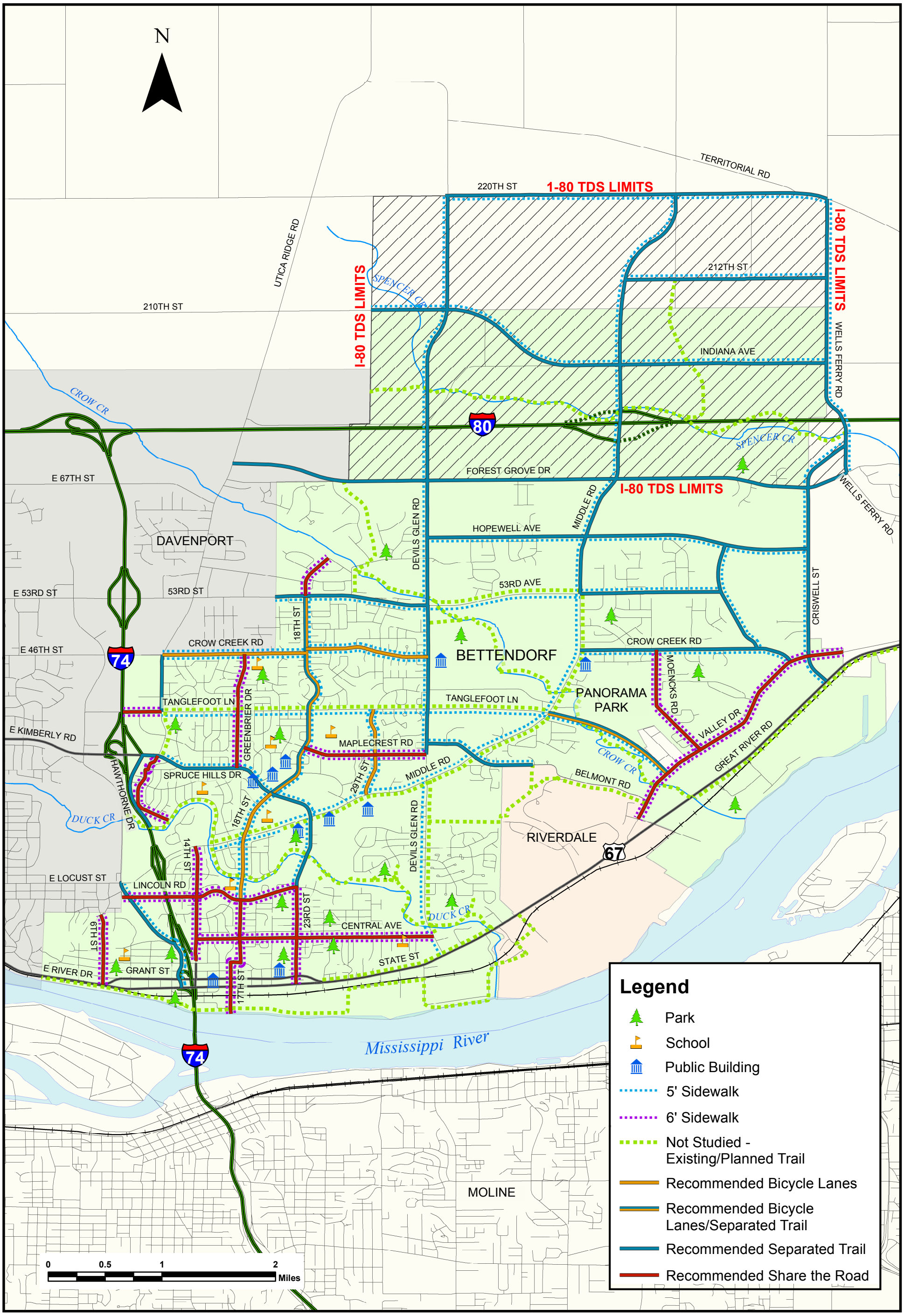
Figure 4.1

Bettendorf, Iowa
Transportation System

Bettendorf Trails Network



Map prepared by:

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Figure 8.1

Bettendorf, Iowa Trails System

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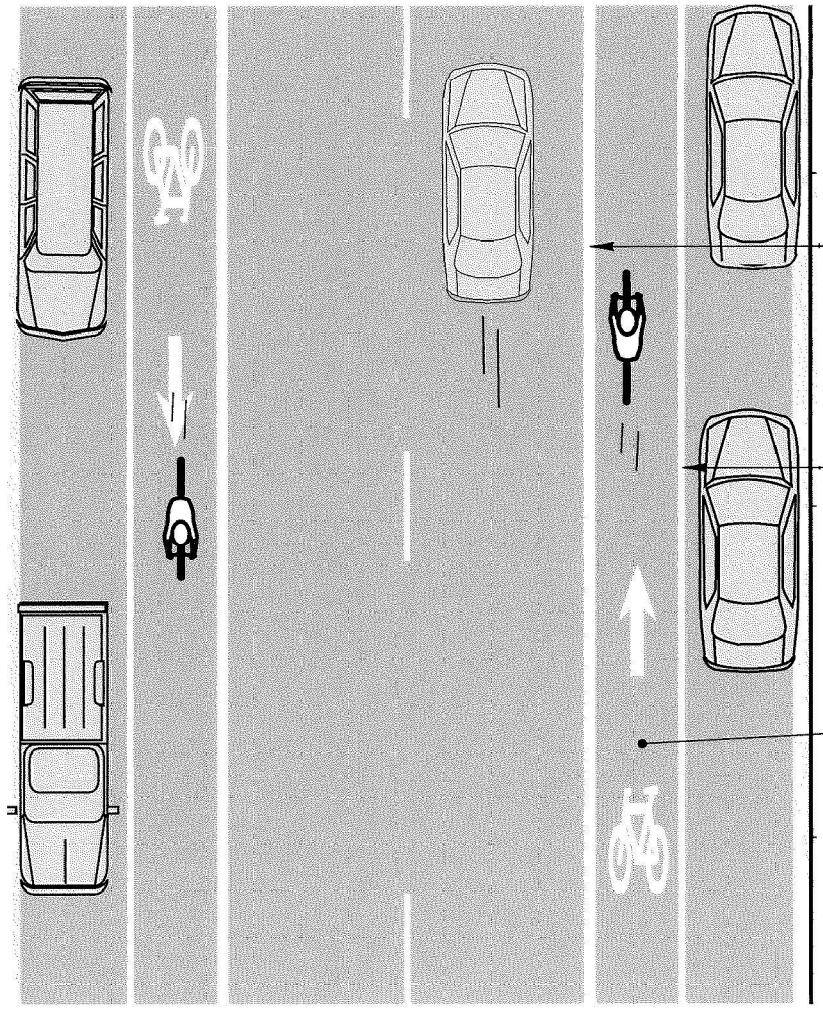
Separated Trail

DATE	5/8/12	SCALE	NONE
DRAWN	HCR	FIELD BOOK	
APPROVED	BJW	REVISION	

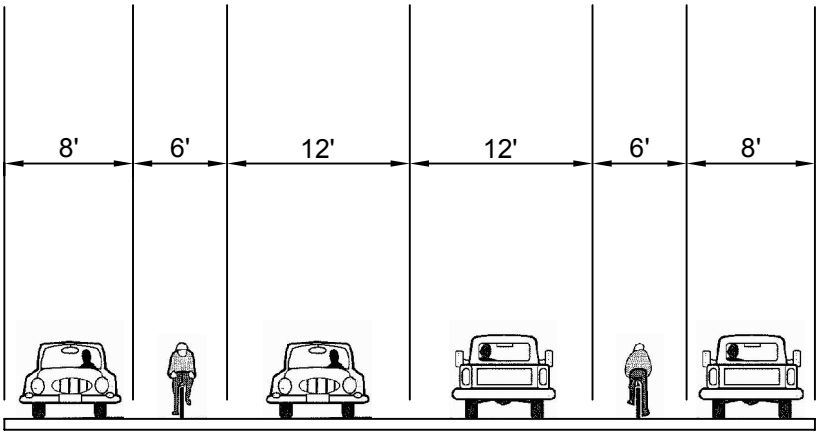
PROJECT NO.
309285-0

SHEET NO.

FIGURE 8.2



NOTE: Bike lane and parking stripes remain continuous when passing alley and driveway entrances



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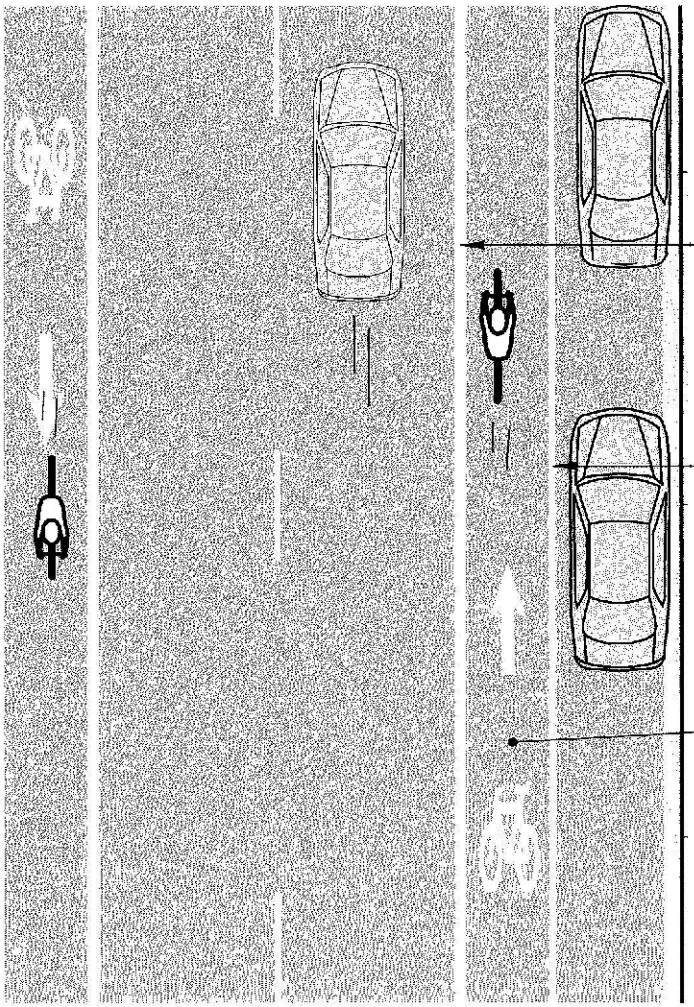
BIKE LANE
PARKING ON BOTH SIDES OF STREET

PROJECT NO. 309285-0

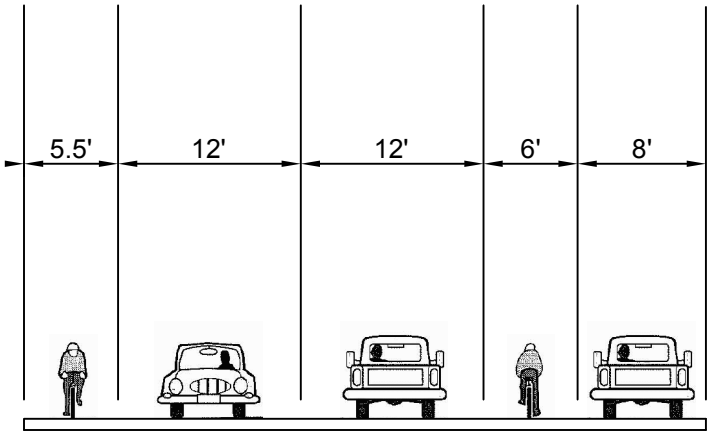
DATE	APRIL 12, 2012	SCALE	NONE
DRAWN	JEW	FIELD BOOK	
APPROVED	SLD	REVISION	

SHEET NO.

FIGURE 8.3



NOTE: Bike lane and parking stripes remain continuous when passing alley and driveway entrances



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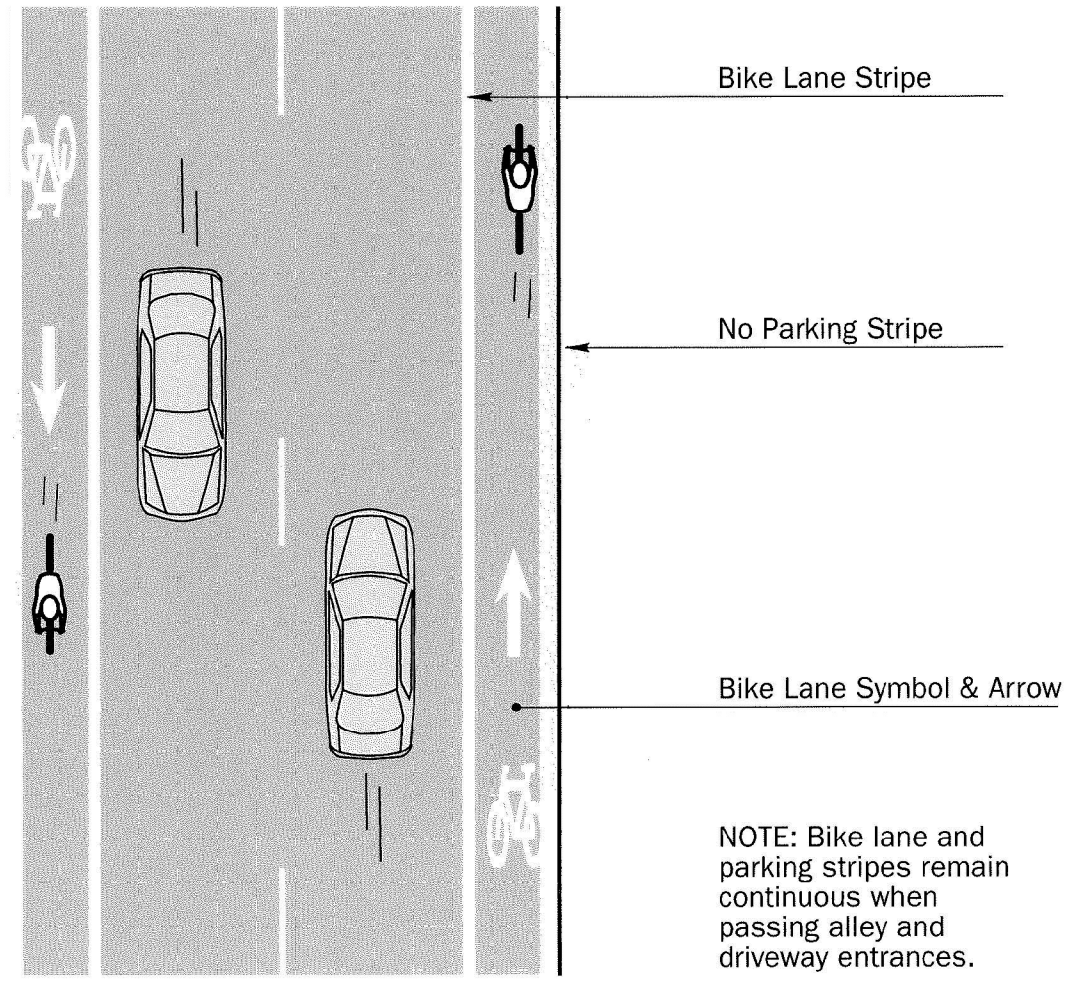
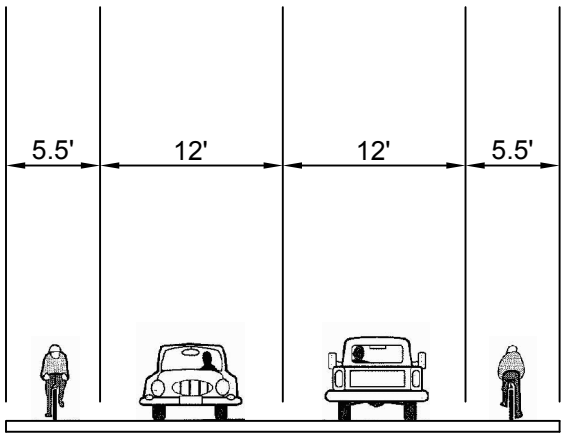
BIKE LANE
PARKING ON ONE SIDE OF STREET

PROJECT NO. 309285-0

DATE	APRIL 12, 2012	SCALE	NONE
DRAWN	JEW	FIELD BOOK	
APPROVED	SLD	REVISION	

SHEET NO.
FIGURE 8.4





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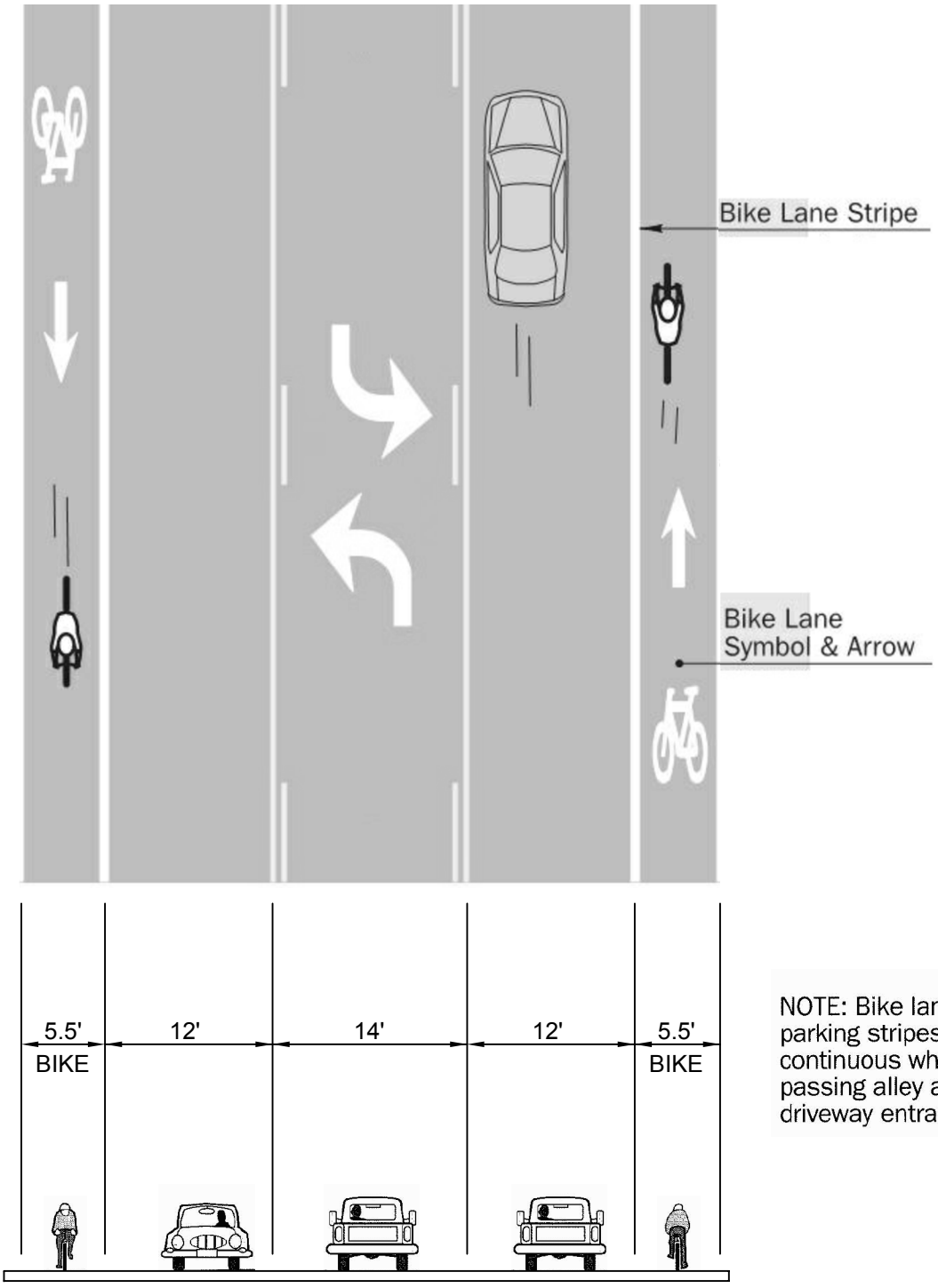
BIKE LANE
NO PARKING ALONG STREET

PROJECT NO. 309285-0

DATE	APRIL 12, 2012	SCALE	NONE
DRAWN	JEW	FIELD BOOK	
APPROVED	SLD	REVISION	

SHEET NO.
FIGURE 8.5

| maross | P:\Projects\MO\309285\Dwg\8.6.DWG | DATE: 04/11/2012 | Time: 11:35 |



NOTE: Bike lane and parking stripes remain continuous when passing alley and driveway entrances

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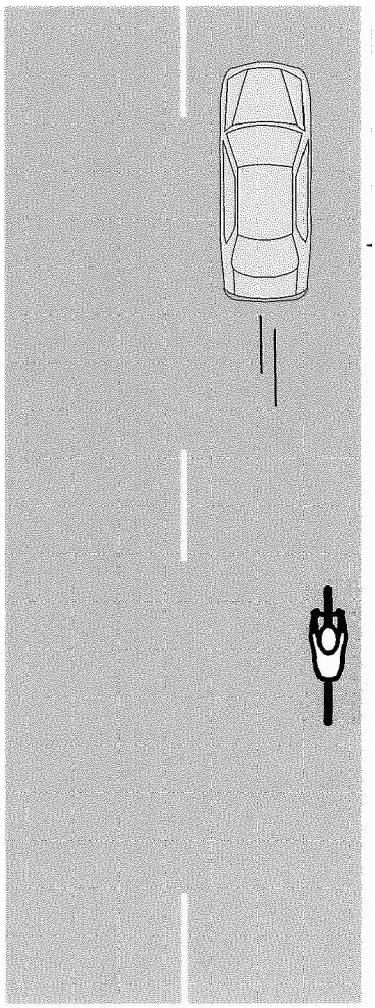
BIKE LANE
3-LANE SECTION

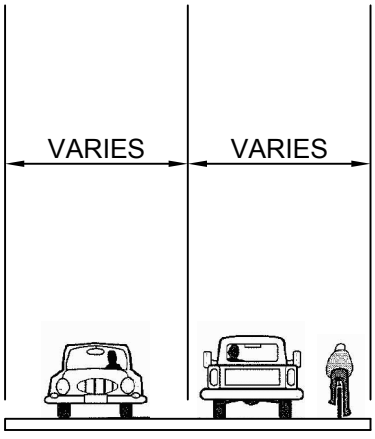
PROJECT NO. 309285-0

DATE	APRIL 12, 2012	SCALE	NONE
DRAWN	JEW	FIELD BOOK	
APPROVED	SLD	REVISION	

SHEET NO.
FIGURE 8.6



Bike Lane Signs
Along Bike Route



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BIKE LANE
SHARED USE LANES

PROJECT NO.
309285-0

DATE	APRIL 12, 2012	SCALE	NONE
DRAWN	JEW	FIELD BOOK	
APPROVED	SLD	REVISION	

SHEET NO.

FIGURE 8.7