Decatur Area Transportation Efficiency Study

FINAL REPORT

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URS

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1. Introduction

The Decatur Metropolitan Planning Area (MPA), located in Macon County, Illinois, is an urban center with an extensive surface transportation network (see **Figure 1-1**) including three Class 1 railroads. This network facilitates the movement of goods, materials and commodities to major industries and businesses both locally and throughout the region (see **Figure 1-2** for a regional perspective). The Decatur Urbanized Area Transportation Study (DUATS), the designated Metropolitan Planning Organization (MPO) responsible for long-range transportation planning in the MPA, recognizes that providing for the safe and efficient movement of goods and materials is critical to maintaining and enhancing the economic well-being of the region.

Through previous planning efforts the DUATS technical and policy committees have identified the need to conduct a regional transportation efficiency study to address the growing freight inefficiencies – specifically related to rail and truck movements within the region. Local industry leaders have also become increasingly concerned about growing freight inefficiencies and the potential negative impacts on area businesses. Generally speaking, the existing Decatur area surface transportation network is constrained and efficiency and productivity is compromised by congestion, limited and outdated freight facilities, and frequent vehicular/rail delays. These inefficiencies not only impact local industries and businesses, but also negatively affect the regional quality of life and create potential safety and security risks for all transportation system users. Among the concerns are:

- Restricted mobility on local and regional roadways
- Potential safety concerns for all transportation modes and users
- Heavy truck traffic including intrusion into neighborhoods
- Travel delays at at-grade rail crossings
- Land use incompatibilities which lead to potential development and traffic concerns
- Noise and visual impacts associated with truck and rail traffic
- Poor air quality and related health impacts

As a result, DUATS conducted the Decatur Area Transportation Efficiency Study (DATES) to evaluate rail and truck movements within the Decatur MPA with the goal of identifying short-term and long-term improvements that enhance the overall efficiency of the regional transportation network.

Figure 1-1. The Decatur Metropolitan Planning Area

Figure 1-2. The Decatur Metropolitan Planning Area – Regional Perspective

The DATES Vision

The DATES is focusing on improving truck, rail, and general freight movement through the Decatur region. By doing so, the DATES will benefit all transportation users by prioritizing improvements to:

- Reduce travel delays on congested roadways and at-grade rail crossings
- Enhance safety for the traveling public including motorists, bicyclists, and pedestrians
- Support and strengthen existing area businesses and industries
- Enhance economic development opportunities within the region
- Improve the overall quality of life for area residents

The DATES vision is:

> *Increase the overall efficiency of the local and regional transportation system by identifying cost effective solutions to accommodate the current and long-range needs that help support the regional economic sustainability and development needs of the region, enhance safety and mobility for the traveling public, and enhance the quality of life for area residents.*

Why is this Study Necessary?

Those familiar with the Decatur area have likely experienced travel delays associated with at-grade rail crossings and heavy truck traffic within the region. A 2012 survey of Decatur area residents showed that 97% of respondents indicated that within the past 30 days they had been stopped or delayed by a train crossing; nearly half indicated they were stopped six or more times. Many of these respondents indicated that the train blockages result in significant delays and it is not uncommon to hear stories of motorists being delayed 30 minutes or longer with some delays approaching or exceeding one hour.

These numerous blockages and extended delays create uncertainty with the traveling public and frequently result in motorists racing to open at-grade crossings, or grade separated roadways, to avoid potentially long delays. Residents have become so accustomed to rail blockages that most have identified an “escape route” to avoid long delays. As motorists utilize their escape route they often make unsafe maneuvers including illegal U-turns, speeding, cutting through neighborhoods, and ignoring railroad warning signals to avoid delays.

Heavy truck traffic in the Decatur has also been a concern of local officials and area residents. For years trucks would travel along US 51 (Water and Main Streets) through the Decatur Central Business District (CBD) creating noise, pollution, safety and maintenance concerns. Recently, the City of Decatur entered into an agreement with the Illinois Department of Transportation (IDOT)

that reroutes truck traffic away from the CBD onto Martin Luther King (MLK) Drive but adequately accommodating heavy truck movements throughout the region remains a concern.

While rail and heavy truck traffic conflicts have existed in the Decatur area for years, the issue is likely to get worse. After decades of a relatively stagnant market, Class 1 freight railroads are experiencing significant growth in demand and congestion on the mainline railroad network is forecast to grow significantly by 2035.[1] Increasing interest in developing a national higher speed passenger rail system will further add to the rail capacity issues as passenger and freight movements will compete for limited trackage.

Heavy truck traffic continues to increase nationally and congestion is forecast to spread from larger urban areas to large stretches of intercity highways in both urban and rural areas.[2] Overall, passenger cars and trucks will continue to compete for limited space on the highway system and within local communities. Seasonal surges in freight demand (in both truck and rail traffic), something common in the Decatur area, further complicates matters by adding to the overall congestion and travel delays.

DUATS, through their long-range transportation planning efforts, has previously identified rail, truck, and general freight concerns throughout the region. **Table 1-1** summarizes the DUATS 2035 LRTP goals and objectives that directly relate to regional and local truck, rail and freight movements. These goals and objectives, and overall concerns, are addressed in DATES.

Table 1-1. DUATS 2035 Long Range Transportation Goals and Objectives at Impact DATES

2035 LRTP Goals	2035 LRTP Objectives
1) Develop coordinated multi-modal transportation system that facilitates the safe, secure, and efficient movement of people and goods to, from, within, and through the Metropolitan Planning Area which fosters the growth of the local and regional economy.	e) Plan for intermodal terminals to foster efficient transfer of people and goods between and among various modes of transportation. h) Launch a freight consolidation study to encourage the joint use of rail facilities which could result in major increases in efficiencies, reductions in rail/vehicle conflicts and possible closure of certain rail crossings.
2) Improve and maintain the existing transportation system to make the most efficient, safest and most cost-effective use of existing infrastructure investments.	e) Improve efficiency of roadway facilities by changing traffic operations or improving route design to upgrade road capacity in congested and potentially congested areas.
3) Promote and expand utilization of regional facilities.	b) Promote the MPA as a regional freight distribution center by enhancing existing and constructing new facilities using public-private development strategies. c) Develop a regional hierarchy of roads to concentrate major vehicular movements on uniformly spaced thoroughfares.
6) Coordinate land use and transportation improvements to insure compatibility and sensitivity with the social, economic, and ecological environments.	e) Avoid encouraging the penetration of neighborhoods by vehicular traffic not destined to the area in order to preserve the quality-of-life.

SOURCE: DUATS 2035 Long Range Transportation Plan.

[1] FHWA – Freight Management and Operations; http://ops.fhwa.dot.gov/freight/freight_analysis/freight_story/congestion.htm

[2] *Ibid.*

Ultimately, the rail, truck and freight movements through the Decatur region have reached a point where local stakeholders recognize that something needs to be done to move the DUATS 2035 LRTP goals and objectives from a vision to reality. There is growing concern about the highway-rail blockages, which continue to increase in number and duration, and the ability of the regional roadway network to adequately accommodate all users in a safe and efficient manner. While local residents, officials, and business owners know these problems exist, no one within the region has been able to clearly document the root cause which makes it difficult to identify and prioritize solutions. This study, DATES, documents the freight movement issues and identifies recommended short-term and long-term improvements to address the overall DATES study goals and DUATS 2035 LRTP goals and objectives.

2. Issues Identification

While local residents, officials, and business owners know there are rail and truck issues within the Decatur region, documenting the exact cause(s), and extent, of the freight movement inefficiencies is difficult. To better understand the current state of the transportation system, the project team used a two part issues identification process to document the causes and the severity of the situation.

The first part involved listening to people who know the area the best – area residents, business owners, community leaders, freight shipping companies and the rail companies. These individuals are often referred to as stakeholders because they are directly affected by the negative aspects of the inefficiencies and travel delays. The public outreach effort included the entire community and industry leaders to identify their concerns and issues. The first part of the issues identification process, which is summarized in this chapter, included conducting:

- Mobility survey
- Stakeholder interviews
- Freight shipper survey
- Public workshop

The second part of the issues identification focused on the technical evaluation of the existing and future year transportation conditions. This process involved analyzing rail and truck data to identify mobility concerns, deficiencies and other freight related issues. The project team also utilized two models to evaluate year 2035 conditions. The second part of the issues identification, the technical evaluation, is described in *Chapter 3 – System Performance*.

Mobility Survey

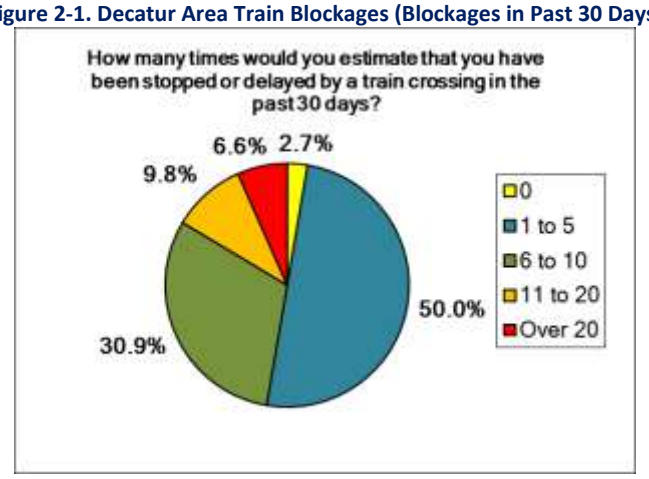
The project team developed a mobility survey as the primary DATES public outreach tool. The survey asked respondents to comment on rail, truck and general freight movements within the Decatur region. The survey was available on the City of Decatur website where a DATES project webpage was established. The project website address was:

http://www.ci.decatur.il.us/datesproject.html

The survey was promoted through direct emails, a YouTube video, a radio interview, and other project related materials. In total, 275 surveys[3] were completed between August 2011 and March 2012. Significant highlights from the survey are identified as follows:

- Approximately 93% of respondents indicated they typically drive alone, 5% carpool, 1% use public transportation, and 1% walk.
- 97% of respondents indicated that within the past 30 days they had been stopped or delayed by a train crossing within the Decatur area. Just shy of 50% of respondents indicated that they were stopped or delayed six or more times, of which nearly 7% indicated they were stopped or delayed over 20 times (see **Figure 2-1**).

Figure 2-1. Decatur Area Train Blockages (Blockages in Past 30 Days)

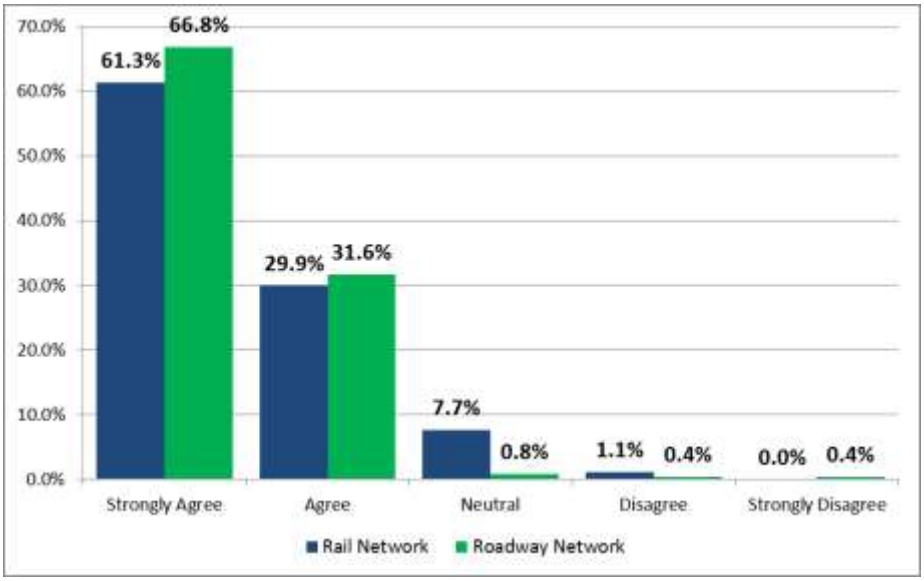


SOURCE: URS Corporation; Decatur Area Mobility Survey.

- 47% of respondents indicated they have altered their travel plans (i.e., left early or later, took a different route, etc.), before traveling to a destination, to avoid a possible train delay.
- Two out of every three (67%) respondents indicated they have been late for, or missed, an appointment/event/school due to a train blockage.
- 96% of respondents indicated that while traveling to a destination they have altered their route to avoid an approaching train or at-grade blockage. Many use local, or neighborhood, streets or race to an unblocked at-grade crossing to avoid being delayed.
- Survey respondents recognize how critical rail and roadway (truck) activity is to the local economy. Over 98% of respondents "Strongly Agree" or "Agree" that the roadway network is critical to the economic wellbeing of the region. Approximately 91% had a similar response regarding the rail network (see **Figure 2-2**). Nearly half of all respondents "Strongly Agree" that improving the existing rail and roadway networks are vital to supporting economic development within the region (see **Figure 2-3**).

[3] This survey is not intended to be a statically valid survey.

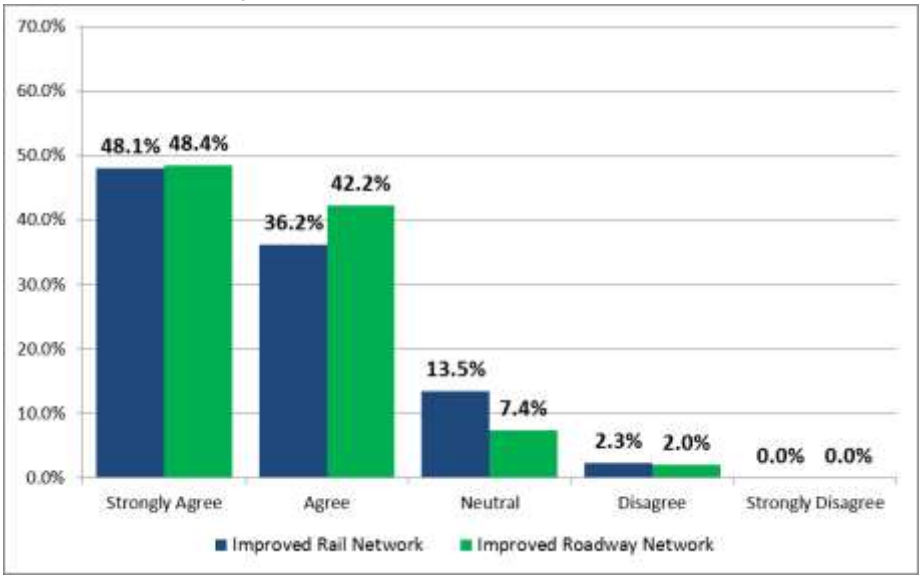
Figure 2-2. Efficient Transportation System Impact on the Region's Economic Wellbeing



SOURCE: URS Corporation; Decatur Area Mobility Survey.

Figure 2-3. Improved Transportation System Impact on Economic Development

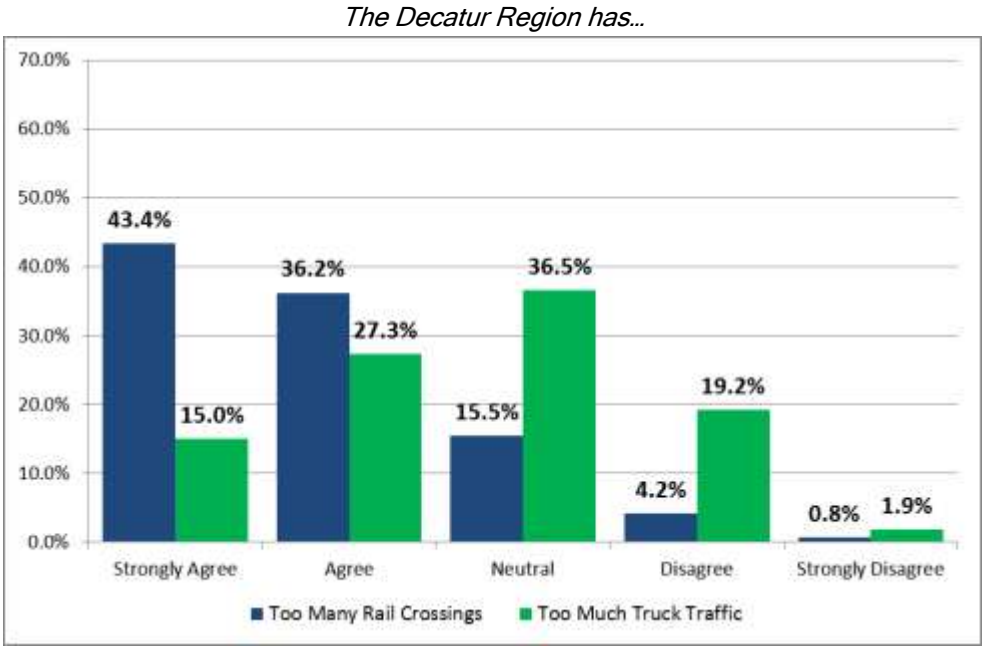
An improved transportation system can support economic development within the Decatur Region…



SOURCE: URS Corporation; Decatur Area Mobility Survey.

- Over 80% of respondents "Strongly Agree" or "Agree" that there are too many rail crossings in the region. Approximately 42%, or almost half, had a similar response regarding too much truck traffic. (see **Figure 2-4**).

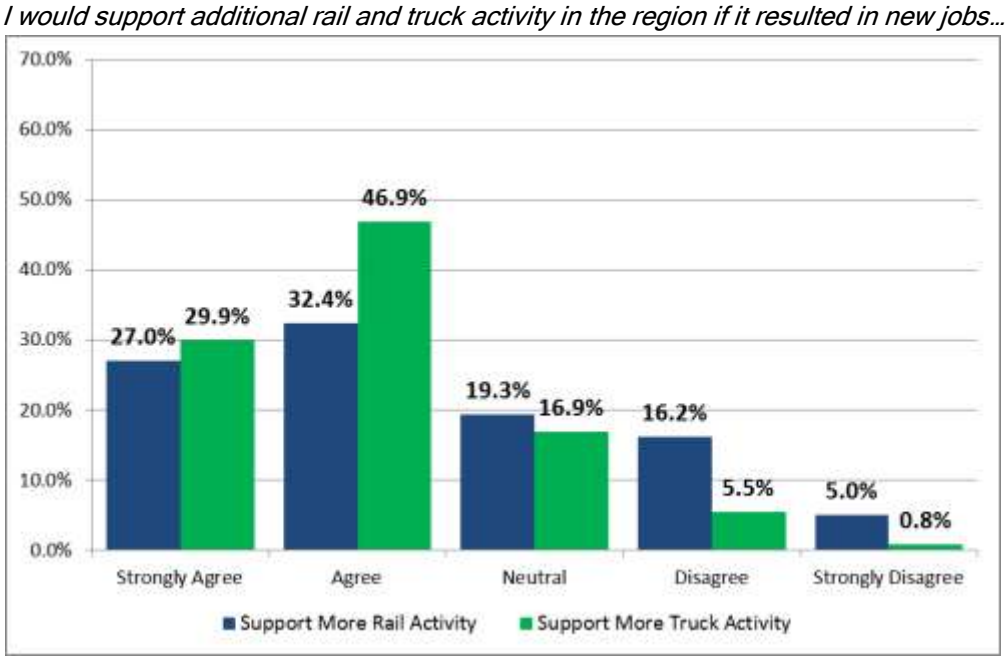
Figure 2-4. At-Grade Rail Crossings and Truck Traffic in the Decatur Area



SOURCE: URS Corporation; Decatur Area Mobility Survey.

- Approximately 77% of respondents "Strongly Agree" or "Agree" they would support increased truck activity in the region if it created new jobs. Approximately 60% had a similar response regarding rail activity. In a separate question, respondents indicated they are less likely to support increased rail and truck activity, even if it creates more jobs, unless the increased activity is better accommodated (see **Figure 2-5**).

Figure 2-5. Support for Additional Rail and Truck Activity if it Resulted in New Jobs

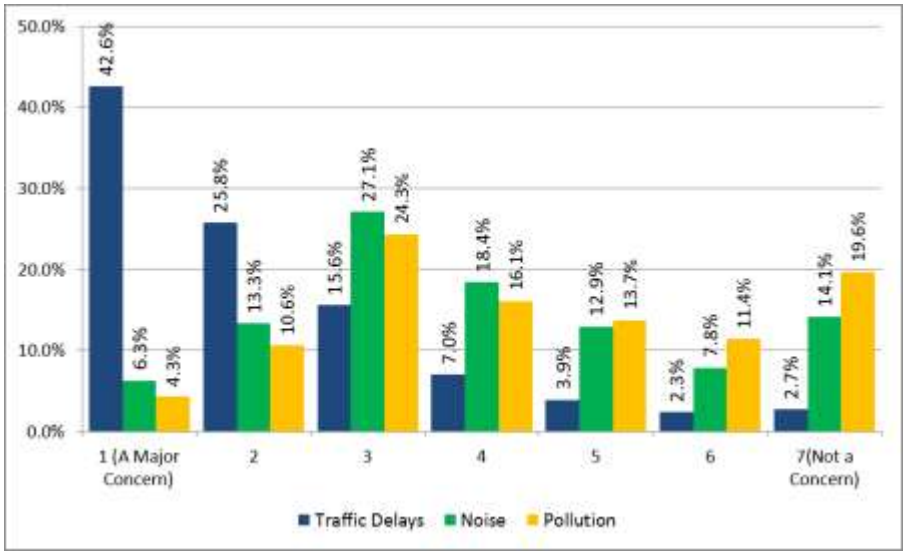


SOURCE: URS Corporation; Decatur Area Mobility Survey.

- Nearly 43% of respondents indicated that traffic delays are a "major concern" within the region. In total, 84% of respondents indicated traffic delays are somewhat of a concern (defined as receiving a score of 1, 2, or 3). By comparison, 47% were somewhat concerned about noise related issues and 39% were somewhat concerned about pollution related issues (see **Figure 2-6**).

Figure 2-6. Concerns Regarding Travel Delays, Noise, and Pollution

How big of a concern are the following as they relate to rail activity in the region?

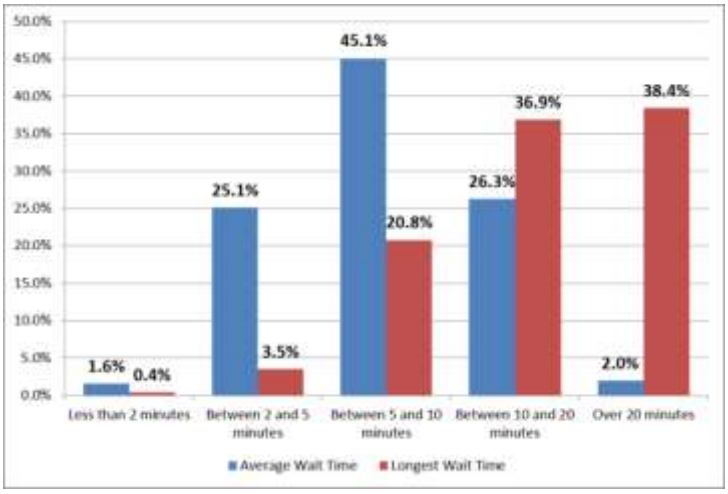


SOURCE: URS Corporation; Decatur Area Mobility Survey.

- The majority of respondents, approximately 45%, indicated that their average wait time for a train to clear an at-grade crossing is between 5 and 10 minutes. The majority of respondents, approximately 38%, indicated that their longest wait time for a train to clear an at-grade crossing is over 20 minutes (see **Figure 2-7**).

Figure 2-7. Average and Longest Wait Time for a Train Blockage (past 30 days)

What is the average time, and longest time, that you have had to wait for a train blockage?



SOURCE: URS Corporation; Decatur Area Mobility Survey.

- Survey respondents were asked to provide their perception of general traffic conditions and mobility in the Decatur region. **Table 2-1** shows that the 43% of respondents strongly agree that there are too many rail crossings of major roadways in the region. Another 46% strongly agree that these crossings are a frequent source of travel delay. By comparison, only 15% of respondents strongly agree that there is too much truck traffic in the region. A significant number of survey respondents agree or strongly agree (totaling nearly 85%) that capacity along I-72 is sufficient to accommodate current traffic levels. By comparison, approximately 48% of survey respondents indicated that major arterial roadways in the region have sufficient capacity.

Table 2-1. Perception of General Traffic Conditions and Mobility in the Decatur Region

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
It is easy to access the interstate (I-72).	90	135	23	13	4
	34.0%	50.9%	8.7%	4.9%	1.5%
I-72 has adequate capacity to accommodate current traffic levels.	114	126	17	6	1
	43.2%	47.7%	6.4%	2.3%	0.4%
Arterial roadways - such as Main St., Eldorado St., Pershing Rd., and Brush College Rd. - have adequate capacity to accommodate current traffic levels.	32	96	43	77	17
	12.1%	36.2%	16.2%	29.1%	6.4%
There are too many rail crossings of major roadways.	115	96	41	11	2
	43.4%	36.2%	15.5%	4.2%	0.8%
Train crossings/blockages are a frequent source of travel delay.	122	94	28	15	5
	46.2%	35.6%	10.6%	5.7%	1.9%
There is too much truck traffic in the region.	39	71	95	50	5
	15.0%	27.3%	36.5%	19.2%	1.9%
There is too much truck traffic - specifically in downtown Decatur.	62	76	72	44	9
	23.6%	28.9%	27.4%	16.7%	3.4%
Developing a statewide passenger rail system, connecting to the Decatur area, would enhance regional mobility.	118	86	38	13	11
	44.4%	32.3%	14.3%	4.9%	4.1%

SOURCE: URS Corporation; Decatur Area Mobility Survey.

Stakeholder Interviews

Stakeholder interviews were conducted early in the planning process to identify issues for the project team to further evaluate throughout the study process. A total of twenty-two businesses and organizations were identified by the City for inclusion in stakeholder outreach activities. Fourteen stakeholder businesses/organizations participated in individual phone interviews with URS staff. Multiple attempts were made to contact each of the stakeholders.

Stakeholder interviewees were asked to respond to a series of questions related to:

- The existing condition of local and regional truck and rail traffic;
- Any rail- or truck-related adverse impacts;
- Potential improvements to the rail and roadway network; and,
- Obstacles to potential network improvements.

Generally speaking, the majority of the participants had minimal issues or complaints about the existing freight rail and truck network. Along these same lines, there was little or no concern about maintenance issues cited by any of the participants. The four main road and rail network themes that were mentioned as issues by multiple participants included:

- Blockage of at-grade roadway crossings by freight trains (often exceeding 30 minutes at a time), multiple times per day results in traffic delays;
- Freight truck traffic volumes can result in traffic congestion;
- The existing roadway configuration makes eastern access of the city comparatively difficult; and
- Narrow underpasses (particularly along Brush College Road) can become congested and unsafe, particularly when at-grade crossing blockages result in the re-route of cars and trucks.

Freight rail traffic was identified as an issue by the majority of respondents, and most identified negative roadway impacts that resulted from the recurrent blockages of at-grade roadway crossings. The severity of these negative impacts varied according to the participant's proximity to the at-grade crossings: people who work/travel nearest the crossings rated the blockages as having a more negative impact. Despite some concerns about freight rail traffic, most participants noted its central role in supporting the region's economy and characterized the blockages as relatively minor inconveniences.

While most participants could not readily identify necessary improvements to the regional truck and rail network, three suggestions were offered:

- Optimize traffic signal timing to facilitate efficient traffic movement through the city;
- Construct the SE Beltway around to the eastern side of the city to improve westbound access into the city; and
- Schedule closure of at-grade rail crossings to accommodate freight rail traffic while ensuring predictable and consistent access patterns for drivers.

Issues Identification Workshop

An issues identification workshop was held on August 24, 2011 in the Decatur Public Library. The purpose of the workshop was to give the public an opportunity to identify existing transportation and mobility concerns throughout the region. The workshop provided an informal opportunity for the public to interact with the project team and identify deficiencies, safety concerns, or other transportation related concerns throughout the region. Fewer than ten individuals attended the workshop so relatively little information was collected through this outreach effort.

Freight/Shipper Survey

One of the more challenging aspects of analyzing regional transportation conditions is the lack of easily accessible freight data. In an attempt to gain insight into local freight movements, a

survey targeted at major regional shippers was distributed. The project team utilized information from the Economic Development Corporation to identify over 300 survey recipients. The survey was not intended to be statistically valid but instead was used as a way to obtain general information regarding goods being shipped to/from the Decatur region.

The survey was conducted between September and November 2012. DUATS mailed out letters to area businesses and the survey was hosted on the City's website (the DATES project page). In total, 42 surveys were returned. The following summarizes the major findings.

- Survey respondents were asked to describe the route(s) they typically use to transport goods through the region. The responses were coded by the number of times a particular roadway was identified.

Rank	Roadway	Number of Responses	Rank	Roadway	Number of Responses
1	US 36 (Eldorado)	18	17	Water	3
2	IL 48	17	17	Grand	3
3	US 51	16	19	Oakland	2
4	I-72	13	19	Woodford	2
5	IL 121	12	19	Mound	2
6	Brush College	8	19	Monroe	2
7	22nd	7	23	21st	1
7	Garfield	7	23	Locust	1
7	Pershing	7	23	Southside drive	1
10	"Major Feeders"	6	23	Hubbard	1
11	N. Main	5	23	Lakeshore	1
12	27th	4	23	ADM Parkway	1
12	Jasper	4	23	County 30	1
12	William (IL 105)	4	23	Rock Springs Road	1
12	MLK	4	23	St. Louis bridge	1
12	Faries Parkway	4	23	Logan	1

SOURCE: URS Corporation; Decatur Area Freight Shipper Survey.

- Survey respondents were asked if the route(s) they previously identified were their ideal route(s) to transport goods throughout the region. 90% of the survey respondents indicated that these are their ideal routes. The remaining 10%, a relatively small percentage of respondents, indicated a new roadway in the southeast portion of the study area (SE Beltway) would enhance the movement of their goods through the region.
- Survey respondents were asked to indicate the number of employees that they have working in the Decatur area. The 42 survey respondents reflected a total of 1,508 employees in the area. This averaged out to approximately 36 employees per respondent with the median being 12 employees. The lowest number of employees identified was one while the highest was 275 employees.
- Survey respondents indicated that they were hauling the following products:
    - Chemicals for cooling tower and expendables for doing business and parts for maintaining
    - Corn syrup and ethanol

- Electro-mechanical equipment; construction related products; traffic control equipment, street, highway and parking lot lighting products
- Scales
- Receive aluminum, steel, and wood. Deliver locally wood patterns and ship out aluminum and steel tooling
- Beveled glass and mirrors
- Lead-acid batteries for all uses
- Tarp systems for the trucking industry
- Office supplies and office furniture
- Construction equipment and products
- Business forms and promotional products
- Janitorial, paper and industrial supplies
- Machinery parts
- Sheet metal collection systems
- Paint, solvents, and paint-related materials
- Structural steel, tubing, plates, sheets, bar and angle
- General commodities
- Corn and soybean derived food and industrial products via truck and rail
- Pavement construction, maintenance and recycling materials
- Aggregates and ready-mix
- Paper and other materials for recycling
- Construction materials - drywall, metal studs, man lifts, etc.
- Small office equipment to office supplies
- Truck repair parts
- Concrete burial vaults - transported to cemeteries within a 22 county radius.
- Auto parts
- Power transmission products to industrial & commercial end users
- Bearings, motors, gearboxes, chains, belts/pulleys
- Bottled water delivery
- Raw materials and finished goods related to custom furniture making
- Liquid resin
- General commerce
- HVAC equipment
- Fragrance Products - natural based odor controls, insect repellants, scented crystals
- Machine Parts
- Pumps
- Pneumatic nailing and stapling equipment & fasteners also packaging machines and materials
- Industrial, medical and specialty gases
- Grain, chemicals, lime and aggregate

3. System Performance

As discussed in Chapter 2, the project team utilized a two part issues identification process to identify the causes and extent of the freight movement inefficiencies. This chapter, *System Performance*, focuses on the second part of that process – the technical evaluation of the transportation system.

The technical evaluation involved collecting and analyzing rail and truck data to identify mobility concerns, safety concerns, deficiencies and other freight related issues. In addition to analyzing current data, the project team utilized the regional travel demand forecasting model to analyze future year (2035) roadway conditions. A regional rail model, which simulates train movements through the Decatur area, was also developed to quantify the current rail conditions and to evaluate potential rail improvements. The technical evaluation included:

- Reviewing the DUATS 2035 LRTP
- Analyzing Roadway Conditions
- Analyzing Rail Operations
- Analyzing Impacts on Other Transportation Modes (public transportation and non-motorized)

DUATS 2035 Long Range Transportation Plan

DUATS is responsible for the federally mandated long range transportation planning process for the Decatur Metropolitan Planning Area (MPA). The planning process is consistent with federal law (MAP-21 is the current legislation; SAFETEA-LU is the previous legislation) that requires a comprehensive, coordinated, and continuous planning effort. As part of this process, DUATS is required to complete a long range transportation plan (LRTP). The DUATS 2035 LRTP is the current plan, which was adopted in December 2009, and must be updated again by December 2014.

The DUATS 2035 LRTP evaluates the Decatur MPA multi-modal transportation system. As such, the LRTP includes a discussion of the regional rail, truck and freight issues – which is the focus of the DATES. Chapter 1, of this study, documented the DUATS 2035 LRTP goals and objectives that directly relate to freight movements through the region. The following summarizes the major rail, truck and freight issues that are discussed in further detail as part of the LRTP:

- There are eight designated state truck routes within the Decatur MPA. There are three truck route classifications designated by IDOT with classifications I and II present in the MPA. I-72, from the Sangamon County line to Piatt County line, and US 51, from I-72 to Business Route 51, are designated as Class I facilities.
- Most of the designated truck routes direct truck traffic around the City of Decatur. The exceptions are US 36 which directs east-west truck travel through the northern boundary of Decatur's CBD and until recently Business Route 51 which provided a north-south connection through the CBD. In 2006, the City of Decatur began exploring a viable alternative truck route to move truck traffic off of Business Route 51. In 2010, the City and IDOT reached an agreement to shift truck traffic over to MLK Jr. Drive, between Wood and Eldorado Streets. In doing so, the City received $2.2 million for roadway improvements and the City has used this opportunity to promote redevelopment, enhance quality of life, and create a more pedestrian friendly environment in the downtown. In 2012, the City implemented the change to reroute traffic out of the downtown.
- US 51 and IL 121, carry large volumes of freight trucks that travel through the villages of Forsyth and Mt. Zion respectively.
- Roadways identified as having existing or future year capacity issues have limited options for improvement. Constraints, primarily limited right-of-way, makes adding capacity difficult, and in some locations impossible. Furthermore, the LRTP points out that traffic congestion in the region primarily occurs during the a.m. and p.m. peak hours and does not extend throughout the day. As such, the issue of traffic congestion may be more of an inconvenience, or perception issue, as opposed to a true capacity problem.
- Transit areas of concern, as identified by the DPTS staff in 2002, included:
    - MLK at Wood, Cerro Gordo Street, and Peoria Avenue
    - Oakland Avenue at Cerro Gordo Street
    - E. Eldorado Street at 800 Block railroad tracks; at 22nd Street
    - Prairie at 22nd Street
    - Monroe Street at Garfield Avenue
    - Faries Parkway at 27th Street; at Brush College Road
    - Jasper Street at Garfield Avenue
    - Water Street/Main Street at Johnson Street
- As part of the Operations and Maintenance section of the LRTP, DUATS supports improving the reliability and operating efficiency of the existing transportation system. The LRTP states that, "an effective transportation system requires the provision of the highway and transit infrastructure for movement of the public and freight. To a certain extent this requires the efficient and coordinated operation of the regional transportation network. In order to improve system efficiency, reliability, security and safety all of the entities, local, regional, State, and Federal, must work together to spend the available funds on transportation improvements which effectively link planning, operations, maintenance and land use. This linkage is critically important to improving

transportation decision making and the overall effectiveness and efficiency of our transportation system."

Reviewing the LRTP is a first step in completing the technical evaluation. The LRTP provides the foundation and establishes the vision for the how the region responds to continued residential and economic development. Proposed improvements, included in the DUATS 2035 LRTP, are summarized in **Table 3-1.**

Table 3-1. DUATS 2035 LRTP Truck, Rail and Freight Improvements/Polices

Truck Traffic/Freight Improvements/Policies
Overall: Better accommodate truck traffic and freight movements within the MPA and improve access to area outside the MPA.
1) Construct the SE Beltway to provide increased accessibility within the MPA. Designate the SE Beltway as a primary truck route and limit truck traffic in areas such as downtown Decatur.
2) Support the widening of US 51, outside the MPA, from 2-lane to 4-lane to I-70. This improvement would increase regional accessibility to/from the MPA and would help support economic development opportunities within the MPA.
3) Explore alternatives to better accommodate truck traffic along Brush College Road and E. William Street (IL 105). Identify potential capacity enhancements for Brush College Road subway (2-lane restricted area under the Norfolk Southern Railroad) or identify alternative truck routes to avoid this area.
4) Continue the alternative route study to determine the most appropriate route in order to eliminate through truck traffic from Decatur's CBD.
5) Study the existing truck routes in the MPA to determine if they might be altered to reduce conflicts between traffic modes and to improve efficiencies.
Rail Improvements/Policies
1) Monitor at-grade rail crossing to provide a high level of safety and mobility for motorists, bicyclists and pedestrians. Identify high priority crossings that could be considered for improved traffic control devices and potential grade separated facilities.
2) Identify transit routes and at-grade crossings to determine the potential travel delays resulting from at-grade rail crossings.
3) Continue routine maintenance and upkeep of the existing rail infrastructure.
4) Create an inter-jurisdictional committee of local government, railroads and other stakeholders to explore the potential for intermodal connections, increase in freight efficiencies, possible trans-load operations, possible at-grade crossing closures
5) Promote the Decatur area as a regional freight distribution center by enhancing existing and constructing new facilities user public-private development.
6) Promote the expanded use of the Decatur Airport and industrial park to serve regional and national freight/cargo movements. Promote the construction of a rail spur serving the industrial park.
7) Explore the possibility of a container handling facility within the MPA to remain competitive in freight movement. A container on flat car/trailer on flat car (COFC/TOFC) facility would support economic development within the MPA>
8) Identify and preserve abandoned rail corridors that could be used for potential bicycle and multi-use trails. Keep close communication with the rail companies to identify plans to abandon rail lines within the MPA.

Roadway Conditions

The Decatur region includes several significant regional roadway facilities (see roadway network and traffic volumes on **Figure 3-1**) that accommodate the movement of people and goods. The region consists of a typical grid roadway network that is altered by topography, conservation areas, Lake Decatur and I-72. I-72 provides the primary east-west connection through the region and US 51 provides a four-lane restricted access highway north-south to connect Bloomington and Pana. Illinois (IL) 48 runs northeast-southwest through Macon County,

providing an alternate route between I-55 and St. Louis and I-57 and Chicago. IL 121 extends northwest and southeast between I-55 and Lincoln and I-57 and Mattoon. US 36 provides an important link between the City of Decatur east to the Illinois-Indiana border. IL 105 is another east-west route that extends from the junction of IL 48 in southwest Decatur, east to the Piatt-Macon County line.

As mentioned, topography, Lake Decatur and I-72 interrupt and are obstacles to the grid system. For example, there are five bridge crossing locations to facilitate the movement of traffic to areas primarily east and west of the Sangamon River and Lake Decatur. To the south, southwest, across the Sangamon River and its tributaries, traffic movement is limited to a few bridge locations.

The majority of the area's roadway mileage is within the jurisdiction of the City of Decatur. The State of Illinois has jurisdiction over the interstate, expressways and most of the major arterials. Many of the minor arterials and collectors, based on roadway mileage, are under jurisdiction of the Macon County Highway Department.

One area that lacks a sufficient number of high classification routes is in the east and southeastern portion of the region. This area is generally southeast of Lake Decatur, around Mt. Zion and Long Creek. For several years a new roadway connection, the Southeast (SE) Beltway, has been discussed to provide a major thoroughfare in this area. The SE Beltway would have significant mobility benefits in terms of accessibility and traffic movement that would support economic development opportunities.

The Urban Classified System provides for the efficient movement of traffic. The system is well connected and provides for continuous traffic flow resulting in good circulation. Exceptions are found during peak travel periods on Lake Decatur bridge crossings, on Pershing between Woodford and Monroe Streets and Route 51, north from Mound Road through Forsyth.

There are further disruptions to the traffic flow involving freight rail movements through Decatur, involving all of the area's rail companies. Other areas of disruption are Brush College Road at Illinois Route 105 (William Street), Illinois Route 48, south bound, at the junction of Brush College Road and seasonal traffic delays on Brush College Road as grain trucks deliver product to ADM. A portion of Brush College, between William Street and Faries Parkway, is currently undergoing a study to determine the most efficient, economical way to improve this vital roadway and increase its capacity. Of special importance is a detailed study of the intersections of Brush College and Faries Parkway and the intersection of William Street (IL 105).

Figure 3-1. Decatur Area Roadway Network

Truck Traffic/Freight Movement

State truck route classifications are generally based on truck weight, maximum load allowances, and vehicle size. There are three truck route classifications designated by IDOT with classifications I and II present in the Decatur MPA. **Table 3-2** identifies the State designated truck routes within the MPA. The first two are Class I and the remainder of the routes are Class II.

Table 3-2. State Designated Truck Routes

Roadway	Location	
I-72	Sangamon County Line	Piatt County Line
US 51	I-72 (Exit 133)	Business Route 51
US 36	I-72 (Exit 133)	Piatt & Moultrie Co. Lines
US 51	Dewitt County Line	I-72
BR 51	Through City of Decatur	
US BR 51 - US 51 exit	(North of Elwin) US 51 exit (South of Elwin)	
IL 48	(north segment) to Piatt County Line	I-72 (Exit 144)
IL 48	(south segment) Christian County Lin	US 51 exit, Taylorville Road
IL 105	Piatt County Line	22nd Street (Decatur)
IL 121	(north segment) Logan County Line	I-72 (Exit 138)
IL 121	(south segment) US 36 - Airport Rd. Intersection	Moultrie County Line

SOURCE: IDOT Designated State Truck Route System.

Class I truck routes are approved for all load widths of 8'6" or less. Typically, Class I truck routes include interstate facilities as is the case in the MPA. Class II truck routes are approved for all load widths of 8'6" or less with a wheel base no greater than 55 feet. In general, trucks can typically travel on local roads within five miles of a designated Class II truck route and within one mile of a Class I truck route.

The primary truck route within the MPA is I-72. This route provides same-day access to more than 60 large markets including Chicago, St. Louis, Detroit, Minneapolis, Kansas City and Cincinnati. Most of the designated truck routes direct truck traffic around the City of Decatur. The exceptions are US 36 which carries east-west truck travel through the northern boundary of Decatur's CBD and Business Route (BR) 51 from Route 51 to Eldorado Street (US 36). Both are Class II Truck Routes and carry significant truck traffic. The same is true for IL 48 between I-72 near Brush College Road and I-72 which carry substantial truck traffic to industries such as ADM and Caterpillar. US 51 and IL 121 carry a large number of freight trucks through the villages of Forsyth and Mt. Zion respectively. Local truck routes are summarized in **Table 3-3** and displayed in **Figure 3-2**.

The Interstate and State Highway system serving the Decatur area is saturated with high truck traffic volumes. Currently, approximately 23 percent of AADT on I-72 is truck traffic; while other State Routes such as: IL 48; IL 105; US 36; IL 121 and US 51 carry truck traffic ranging from 7 to 12 percent. In addition, Pershing Street which is a non-interstate route carries 9 percent truck traffic on a daily basis. This is a capacity issue on State Highway system. **Figure 3-3** displays the truck volumes.

Table 3-3. Locally Maintained Designated Truck Routes

Roadway	Location
Macon County	
Bear Road	Hill Road to Cantrell Street
Brush College Road	Faries Parkway to IL-48
Cantrell Street	Bear Road to Wyckles Road
Elwin Road	US-51 (BR) to Turpin Road
Mound Road	US-51 (BR) to Brush College Road
Wyckles Road	Cantrell Street to US-36
Decatur (Municipality)	
21st Street	Condit Street to Garfield Avenue
23rd Street	Logan Street to Garfield Avenue
27th Street	Garfield Avenue to IL-48
Brush College Road	IL-105 to Faries Parkway
Cantrell Street	S. Franklin Street to S. Martin Luther King Jr. Drive
E. Hickory Street	N. Calhoun Street to N. Jasper Street
E. Wood Street	Main Street to S. Martin Luther King Jr. Drive
Faries Parkway	27th Street to East City Limits
Franklin (Old BR US 51)	E. Cleveland Avenue to E. Wood Street
Garfield Avenue	US-51 (BR) to 27th Street
Gault	Jackson Street to Martin Luther King Jr. Drive
Grand Avenue	US-51 (BR) to Clinton Street
Hubbard	IL-48 to Brush College Road
Jasper Street	Sangamon Street to IL-121
Logan Street	IL-121 to 23rd Street
Main Street (Old BR US 51)	W. Wood Street to E. Cleveland Avenue
Martin Luther King Jr. Drive	Cantrell Street to US-36
Martin Luther King Jr. Drive	Garfield Avenue to Il-121
Martin Luther King Jr. Drive	US-36 to Grand Avenue
N. Calhoun Street	E. Hickory Street to North End
Olive Street	21st Street to IL-121
Samuels Street	Division Street to Faries Parkway
William Street	Martin Luther King Jr. Drive to Hilton Street
Woodford Street	Garfield Avenue to IL-48

Figure 3-2. Regional Truck Routes

Figure 3-3. Truck Volumes

For several years, local merchants and shoppers complained about the "wall of truck traffic" present on Main and Franklin streets through downtown, essentially separating businesses and pedestrian traffic from the central core. In 2006, the City of Decatur and numerous private investors embarked on a major, aggressive downtown redevelopment initiative. The initiative included the demolition of unsafe, obsolete buildings, the construction of a multi-million dollar office and retail complex and creation of park like open space on Water Street to create a customer and pedestrian friendly environment. Through freight truck traffic on BR 51 was a major deterrent to reaching this goal and as such the City conducted a study that ultimately resulted in the creation of the 6W route that diverts traffic around the CBD (see **Figure 3-4**).

In 2012, the City of Decatur rerouted heavy truck traffic out of the downtown area by passing an ordinance prohibiting vehicles with more than six wheels on Franklin, Water and Main streets between Wood and Eldorado Streets. Truck traffic is redirected around downtown onto Martin Luther King Jr. Drive, Franklin, Wood and Main Street south of downtown, a route that also allows truckers to avoid the mostly-residential portion of Martin Luther King Jr. Drive south of Wood Street. The prohibition is directed toward vehicles having more than six wheels, including vehicles pulling trailers, but does not include emergency vehicles, school buses, motor coaches licensed for the commercial transportation of passengers, vehicles making service calls or deliveries to residences, businesses or construction sites within the downtown or vehicles participating in approved parades or events.

Figures 3-5 through **3-7** display additional photos of the 6W route.

Figure 3-4. Truck Route around the Decatur CBD

Figure 3-5. Advance Signage for 6W Route

Figure 3-6. 6W Route (Franklin at Wood)

Figure 3-7. Wood/MLK Intersection (6W Route)

Heavy truck traffic has also been an issue in the Brush College Road corridor. The City of Decatur is currently working with URS Corporation to study the Brush College Road corridor, between Faries Parkway and William Street. This corridor study is addressing a redesign of the Norfolk Southern (NS) overpass and train related delays at the Faries Parkway intersection. This corridor serves truck movements to and from ADM and other nearby businesses. Grain trucks destined to and from the ADM areas currently do not have a set pattern and/or designated routes of travel. This random travel pattern from multiple locations throughout central Illinois affects the capacity of the State Highway system in an unpredictable way and is often impacted by at-grade rail crossing delays.

A final area of concern is the I-72 and US 51 interchange. The segment of US 51, extending to the north, through Forsyth includes a significant amount of truck traffic. **Figure 3-8** shows a photo along the corridor.

Figure 3-8. Truck Traffic near Forsyth

Maintenance Issues

The heavy truck traffic throughout the region requires a significant amount of maintenance to keep the roadway system in a state of good repair. Figure 3-9 displays typical maintenance concerns that exist along major truck corridors in the region.

Figure 3-9. Maintenance Concerns – IL 48 (just south of Brush College Road)

Roadway Capacity Analysis

The roadway capacity analysis is used as a way to identify potential future year bottlenecks and capacity issues. The project team updated the regional travel demand forecasting model which for the most part will be used to as part of the DUATS 2040 LRTP update. **Figure 3-10** displays the existing traffic congestion within the Decatur region while **Figure 3-11** displays the projected future year (2035) capacity issues for a no-build condition. **Figure 3-12** shows the impact when the SE Beltway is coded into the future year (2035) model scenario.

As the DUATS 2035 LRTP points out, when looking at congestion or capacity issues, there is little in the way of imminent, economical solutions. Roadway segments shown as congested, near or at-capacity are often located along corridors with limited right-of-way that could potentially be used for additional lanes. Furthermore, the terms "congested" and "near, or at capacity" are by definition relative. Observation and experience define these terms more in terms of inconvenience to area drivers. However, the Brush College Road corridor, between William Street and Faries Parkway, is an area that has significant capacity issues that require additional lanes.

The DUATS 2035 LRTP identified the Southeast (SE) Beltway as a project that could benefit the region. The SE Beltway supports several of the overall DUATS goals including increased accessibility and mobility, improved movement of freight, and potentially supporting economic development opportunities. One possible impact of the SE Beltway could be the re-routing of truck traffic out of downtown Decatur. The DATES freight survey also included a few respondents who indicated that a SE Beltway connection would enhance the movement of freight through the region. Some stakeholders also indicated the potential economic development benefits associated with the project.

A comparison of Figures 3-11 and 3-12 shows that the SE Beltway has the potential to alleviate some traffic congestion in the urbanized area. This is a result of traffic being diverted to the SE Beltway as it would provide an improved regional connection. This connection would likely carry several trucks which would enhance the movement of freight within and through the region. Further analysis of the capacity issues and future year traffic volumes will be completed as part of the DUATS 2040 LRTP update which will be completed in 2014.

Figure 3-10. Existing Capacity Analysis

Figure 3-11. Year 2035 Capacity Analysis

Figure 3-12. Proposed SE Beltway Alignment

Railroad Operations

The Decatur region includes three Class 1 railroads – Norfolk Southern (NS), Canadian National (CN), and CSX Transportation (CSX). **Figure 3-13** displays the four railroads that currently serve the Decatur area: NS, CN, CSX and the Decatur Junction Railway Company. Major employers, including ADM, Tate and Lyle and Caterpillar are the primary rail users.

In Macon County there is a total of 136 at-grade rail crossings. Of this total, 85 (61.0%) at-grade rail crossings are located within the Metropolitan Planning Area (MPA). A further breakdown of the 85 crossings shows that over 80% are located in Decatur. The at-grade rail crossings are a significant source of travel delays due to the high number of trains, the train length, relatively slow speed of trains in the urbanized area, and the high traffic volumes on major arterials. A significant number of switching and reverse movements, in/out of rail yards, add to the at-grade crossing delays. The following summarizes the three major railroad carriers in the Decatur region:

- NS is a major carrier with a large flat rail yard located west of Brush College Road and north of William Street (IL 105). With the exception of the Brush College Road crossing near Faries Parkway, there are no major operational issues in the Decatur region.

- CSX Transportation is a relatively smaller rail carrier in comparison to NS and operates one or two trains a day heading east towards Avon yard near Indianapolis. CSX also has Ethanol trains departing once or twice a week. The CSX yard has short storage tracks within their yard, and CSX requires some movements on the CN track, just south of WABIC Diamond while they assemble trains. As a result, CSX has to double or triple their movements causing frequent blockages at Eldorado and Wood. This blockage occurs several times a week.

- CN consists of one general merchandise train arriving daily from the south, either from Mattoon or Centralia. The CN operation also consists of unit coal trains arriving from Peoria destined to ADM. The frequency of the coal trains is at a minimum once or twice a week. The unit train travels at 5 to 10 MPH as it enters the yard located in middle of Decatur, and the speed creates significant disruption to traffic within the City. Blockage occurs at US 51, the major north-south thoroughfare, just west of yard. Additional blockages occur at 22nd and 27th Streets, between CN yard and ADM industrial area.

Figure 3-13. Decatur Area Railroad Network

Norfolk Southern

Norfolk Southern (NS) is the largest rail carrier in the area and Decatur is home to the largest flat switching yard on their system. **Figure 3-14** displays the Decatur area NS rail yard and **Figure 3-15** displays the overall NS rail network within the Decatur region. Although there are significant switching operations within the Decatur yard, there is minimal impact to traffic because the majority of rail traffic enters the yard over grade separated crossings. Where at-grade crossings exist, trains typically operate at a track speed of 40 MPH minimizing traffic delays. Furthermore, grade separated roadways are in close proximity to the NS at-grade crossings so motorists have a viable alternative route that can generally be used to avoid delays.

One significant exception to the previous statements is the NS at-grade crossings along Brush College Road, near Faries Parkway and further north at the ADM plant. Switching operations, servicing ADM West and East plants, at these crossings are numerous and can result in significant traffic delays. Unlike through movements on the NS mainline, the switching operations occur at very low speeds which increase the train blockage delays. The number of train blockages, and the duration of the blockages, is discussed in later in this chapter.

Figure 3-14. Norfolk Southern Rail Yard

Figure 3-15. Norfolk Southern Rail Network

Canadian National

CN is the smallest of the three class one rail companies operating in the Decatur area. **Figure 3-16** displays the CN rail yard and **Figure 3-17** displays the overall CN network within the Decatur region. While the total number of trains is not as high as NS, CN rail traffic can cause significant disruptions to traffic when unit coal trains arrive from Peoria destined for ADM. The unit train travels at very a very low speed (5 to 10 MPH) as it enters the yard which is centrally located in the Decatur urbanized area.

CN movements will block major north-south thoroughfares including US 51 and MLK Jr. Drive and no alternative roadways are available for traffic to avoid these delays. When this movement occurs, it is by far one of the more disruptive train blockages that occurs within the City. Additional at-grade crossings are also impacted by CN operations. Blockages are common at 22nd and 27th Streets as CN provides service to ADM. The majority of material transported on the CN is coal that is used by ADM; however, one general merchandise train typically arrives daily from the south (from Mattoon or Centralia).

Figure 3-16. Canadian National Rail Yard

Figure 3-17. Canadian National Rail Network

CSX Transportation

CSX is a relatively small player with one or two trains generally running per day. CSX is typically carrying ethanol and all trains travel east towards Avon Yard near Indianapolis. **Figure 3-18** displays the CSX rail yard and **Figure 3-19** displays the overall Decatur area rail network. The Decatur rail yard is the end of line for this route and does not extend any further west. While there are not many trains traveling in and out of the area, CSX still creates numerous at-grade train blockages as they assemble trains just south of WABIC diamond. These movements directly impact the at-grade crossing of Eldorado (US 36) and many also impact the crossing at the MLK/Wood intersection. The main problem is the short storage in CSX rail yard which requires multiple movements to assemble trains. These blockages do not necessarily occur daily, but several times per week. CSX has recently replaced ties east of Decatur and performed other track upgrades in the area.

Figure 3-18. CSX Rail Yard

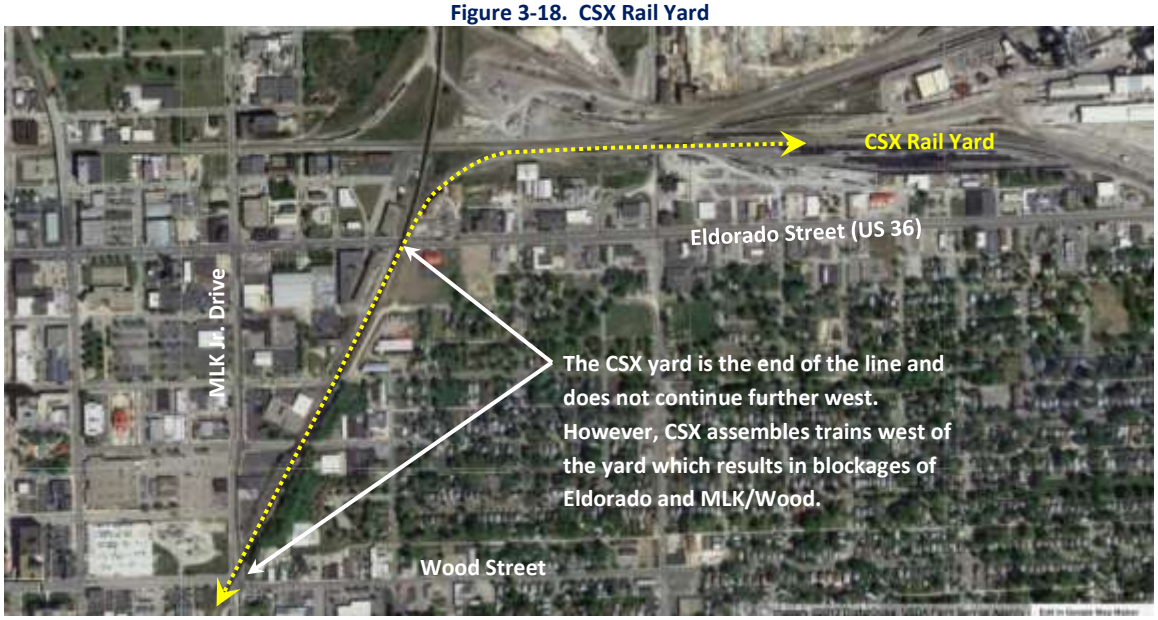


Figure 3-19. CSX Rail Network

At-Grade Train Blockages

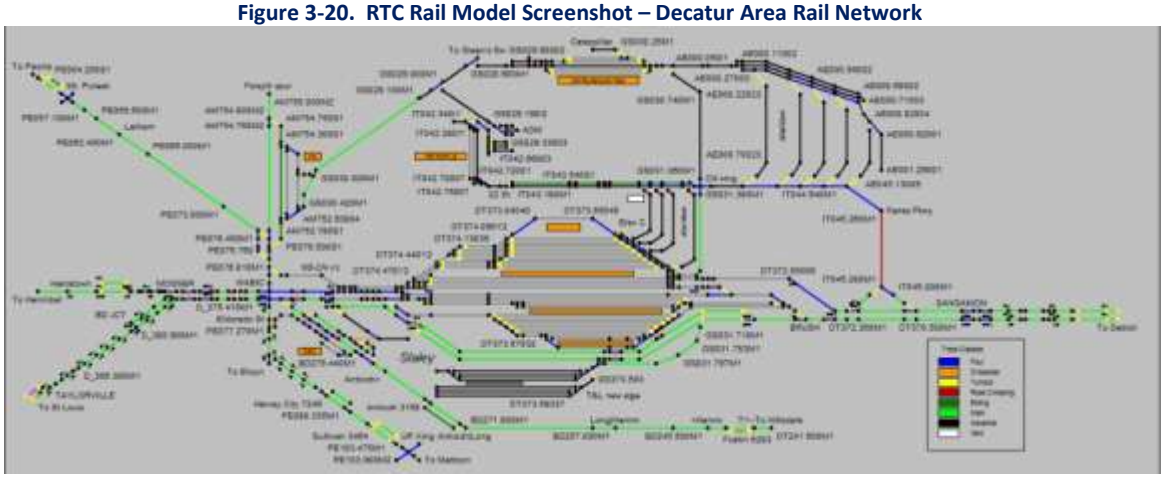
The DATES process found frequent, and often lengthy, delays at at-grade crossings within Decatur. While the number of trains moving through the area is not extremely high, the presence of three rail yards and major industries located with the urbanized area results in numerous switching operations which cause multiple blockages and sometimes lengthy delays. While area residents, officials, and stakeholders have long known these issues exist, it has been nearly impossible to document the blockages/delays on a daily or weekly basis. Without this data, it has been difficult for area officials to understand the true impact of rail operations on the regional roadway network. As a result, identifying and prioritizing potential solutions has also been nearly impossible. To address this concern, the City hired URS Corporation to develop a simulation model of the Decatur rail network to understand the rail issues and ultimately identify potential solutions to create a more efficient transportation system.

Rail Traffic Controller Railroad Modeling

Rail Traffic Controller (RTC) simulates the movement of trains through rail networks and can be used for a variety of purposes ranging from planning studies to more detailed analysis that helps diagnose bottlenecks and prioritize capital infrastructure improvements. RTC dispatches trains in a similar manner that a human dispatcher would do. However, the major difference is that RTC handles dispatching on a much larger scale and over longer periods of time. By doing so, RTC produces operating statistics at the individual train level and system-wide level which can be used to identify potential operating issues throughout a network. In addition, RTC can be used to display an animation of the rail traffic helping planners, engineers, and stakeholders understand the extent of the network issues.

Building a RTC model requires a significant amount of data and time. Since RTC simulates the entire rail network, data from all of the Decatur area railroads must be included in the analysis. URS received operating data from the three Class 1 railroads. In doing so, URS signed a confidentially agreement with each railroad to ensure the data is not shared publicly or between companies. Once the model network was developed, the individual train schedules and routes for all the trains in the system were entered in the simulation. **Figure 3-20** displays a screenshot of the Decatur area RTC rail network.

Figure 3-20. RTC Rail Model Screenshot – Decatur Area Rail Network



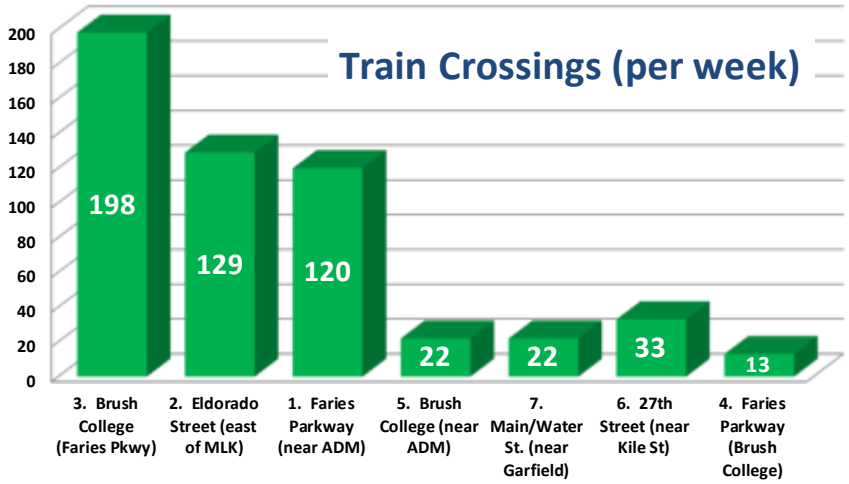
SOURCE: URS Corporation.

Existing Train Blockages

The Decatur region includes several at-grade roadway and rail crossings and it is impossible to evaluate all crossings, or identify improvements to completely eliminate all at-grade crossings in the region. As such, the project team reviewed the rail network and train data to identify the primary areas of concern. **Figure 3-21**, on the following page, identifies these crossing locations.

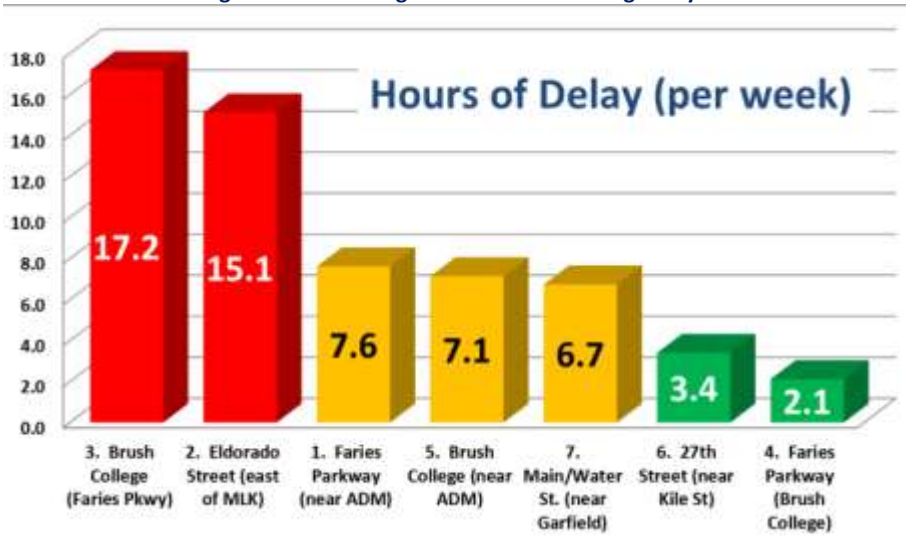
As previously stated, the number of trains moving in and out of the region is not necessarily a problem. Instead, numerous switching operations in the three rail yards, and at major industries, create frequent and sometimes lengthy travel delays. The RTC model was used to identify the number of train crossings, or blockages, that occur on a weekly basis. **Figure 3-21** displays the existing at-grade rail crossings and **Figure 3-22** displays the hours of delay associated with the blockages. **Figure 3-23** displays the key at-grade crossing locations.

Figure 3-21. Existing At-Grade Rail Crossings



SOURCE: URS Corporation; RTC Decatur Area Model.

Figure 3-22. Existing At-Grade Rail Crossing Delays



SOURCE: URS Corporation; RTC Decatur Area Model.

Figure 3-23. At-Grade Rail Crossings (primary crossing concerns)

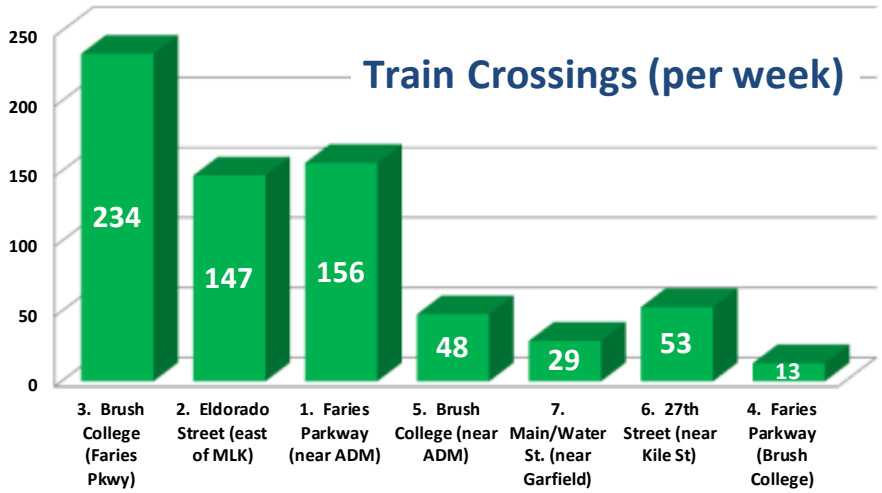
Future Year Conditions

In addition to understanding and documenting the existing rail blockages that occur within the region, another goal of the DATES was to identify the future year rail conditions. DUATS was interested in better understanding what the area's rail operations might look like in ten or twenty years. To accomplish this task, the project team developed a future year rail growth scenario which was coded in the RTC model. The growth in rail traffic assumptions included the following:

- Traffic across the CN Peoria Subdivision increases by one coal train each way per week (from 2 to 3); grain traffic increases by three trains each way per week (from 1 to 4)
- CN generates enough additional ADM traffic off its existing schedules and those extra sections that now operate, and which are included in the existing conditions, to require one extra yard transfer six days per week between Grand Avenue Yard and the ADM support tracks that lie between 27th Street and Brush College Avenue
- CSX increases their ADM unit train (primarily ethanol) by one additional train each way per week (from 2 now to 3)
- NS increases their ADM traffic by about 50 additional cars each way per shift, which requires adding a yard transfer move each shift, six days per week, between the NS Decatur Yard ADM support tracks and the ADM support tracks that lie between 27th Street and Brush College
- ADM doubles the number of movements it makes across north Brush College, between the north side of ADM East and their support trackage west of Brush College

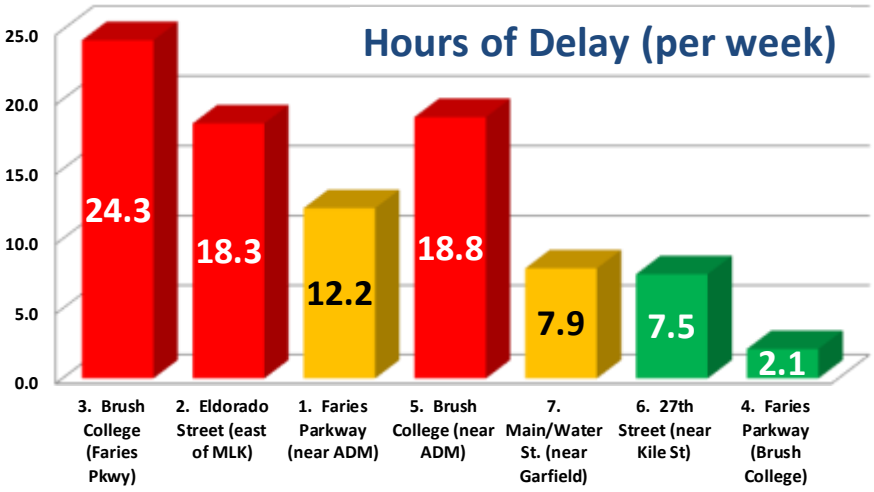
It is important to note that projecting future year rail operations is extremely difficult. Numerous variables (i.e., length of trains, adding new trains, increase demand for materials or products, scheduling, etc.) will impact future year rail operations. As such, the scenario described above represents one of a multiple number of possible future year conditions. The scenario also does not take into account any specific economic development plans by any individual companies. Instead, the project team has made some assumptions based on national rail growth trends and observations regarding the typical activities of area industries to develop the future year scenario. **Figure 3-24** displays the projected number of future year train crossings at the selected at-grade crossings. **Figure 3-25** displays the hours of delay per week associated with the train blockages.

Figure 3-24. Future Year Train Crossings



SOURCE: URS Corporation; RTC Decatur Area Model.

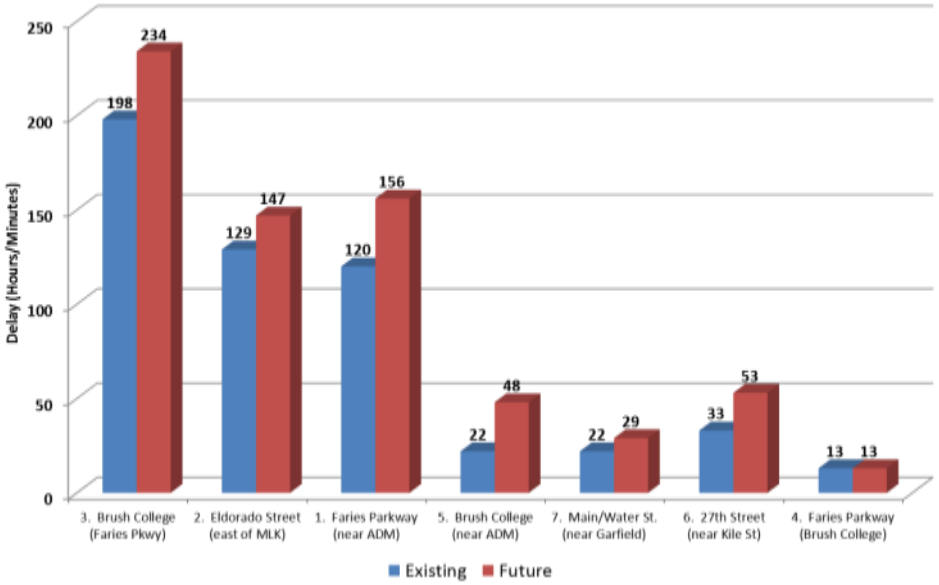
Figure 3-25. Future Year Train Delays



SOURCE: URS Corporation; RTC Decatur Area Model.

The future year conditions show that NS crossing of Brush College Road, near Faries Parkway, will continue to the be the most frequently blocked crossing with an estimated 234 blockages per week resulting in 24.3 hours of delay – the equivalent of being blocked one full day each week. Of the major crossings, the Main/Water crossings showed the lowest increase in number of trains, increasing from 22 to 29. Other crossings in the area are generally projected to increase to a point that they would add between 20 and 30 additional train blockages per week. **Figure 3-26** displays a comparison of the existing and future year train crossings and **Figure 3-27** displays a comparison on the existing and future year delay associated with the select crossings.

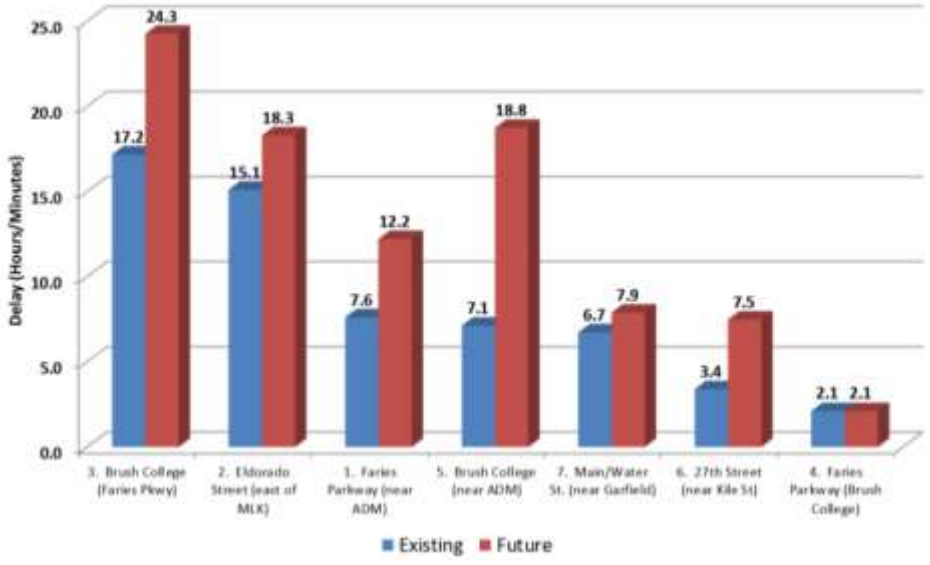
Figure 3-26. Comparison of Existing and Future Year Train Crossings



SOURCE: URS Corporation; RTC Decatur Area Model.

The increased train blockages resulted in increased travel delays with the most significant increase in delay observed at the Brush College Road crossing near ADM. Using the future year rail growth assumptions, this crossing is projected to increase from approximately 7 hours of delay per week to almost 19 hours of delay per week. In simply looking at the numbers, this crossing would surpass the Eldorado crossing and become number two in terms of overall delay. However, it is once again important to note that the increase at this crossing is one of many possible scenarios and the actual impact at this location is directly related to ADM operations. Furthermore, it is important to consider when the delay is occurring as the major impact to the traveling public occurs during the a.m. and p.m. peak rush hours.

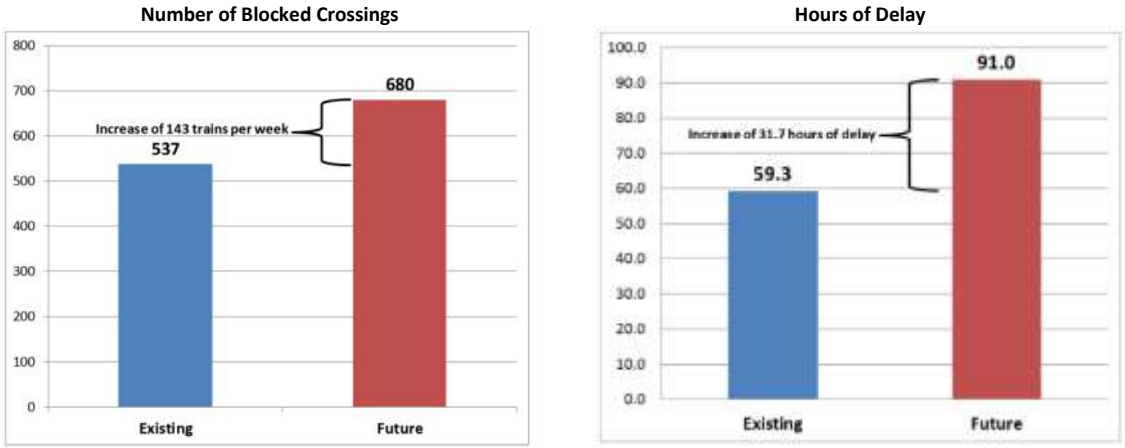
Figure 3-27. Comparison of Existing and Future Year Train Delays (per week)



SOURCE: URS Corporation; RTC Decatur Area Model.

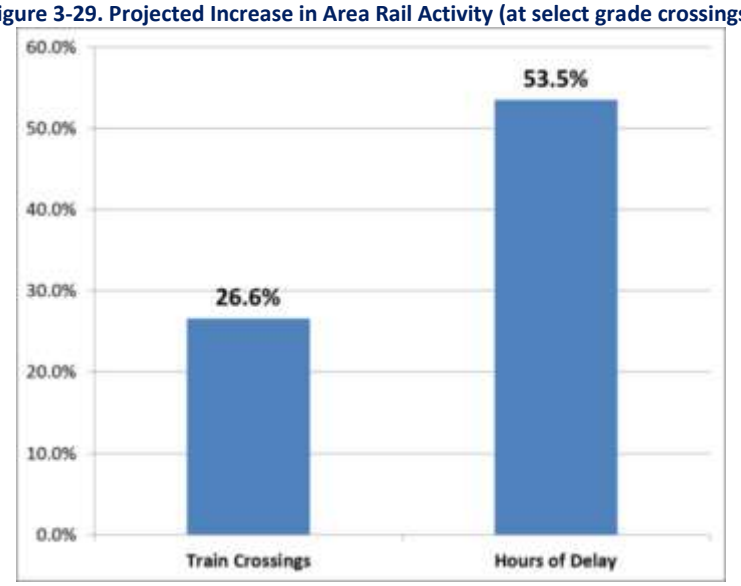
Figure 3-28 summarizes a comparison of the increase in the number of blocked crossings, and hours of delay, between the existing and projected future year conditions. In total, the number of train blockages per week at the selected at-grade crossings increased from 537 to 680, a 143 train increase per week. The total hours of delay per week increased from approximately 59 to 91. This represents an approximately 27% increase in train blockages and a 54% increase in delay (see **Figure 3-29**). What is most interesting about this comparison is that even a relatively small increase in trains traveling through Decatur could cause a significant spike in travel delays.

Figure 3-28. Comparison of Existing and Future Year Conditions (per week, at all select crossings)



SOURCE: URS Corporation; RTC Decatur Area Model.

Figure 3-29. Projected Increase in Area Rail Activity (at select grade crossings)



SOURCE: URS Corporation; RTC Decatur Area Model.

Brush College Road Crossings

The Brush College Road corridor includes three areas of concern. First, is the bottleneck that exists at the NS rail yard underpass. **Figures 3-30** and **3-31** display the current conditions that include a very narrow two-lane underpass that has safety concerns, limited non-motorized accommodations and drainage issues. CN also operates a rail line through the underpass, which can be seen toward the left side of the underpass in the following photos.

Figure 3-30. Brush College Road at NS Underpass

Figure 3-31. Brush College Road at NS Underpass (traveling northbound)

Figure 3-32 displays the Brush College Road at-grade rail crossing immediately north of Faries Parkway. This graphic also shows rail spurs crossing Faries Parkway, just west of Brush College Road. While this crossings present the potential to create travel delays, the majority of operations at these locations are less than the main line tracks and the movements often occur during off-peak times, including late evening and early morning.

Figure 3-32. Brush College Road Crossing at Faries Parkway

Figure 3-33 displays the Brush College Road at-grade rail crossing near the ADM East Plant. This crossing is used to move materials into the ADM plant and often includes very slow movements, including reverse moves that delay traffic. This is an ideal location for ADM to expand yard tracks along the western edge of the East Plant as the location is accessible by NS (from the south, along the former Illinois Terminal trackage next to Fairies Parkway), and by CSX and CN (from the north, via the CN route). Expanded rail activity at this location would probably result in more interference with highway traffic at either 27th, or Fairies/Brush College, or both. The train movements that occur at this crossing are also a dependent function of how ADM (not the Class 1 railroads) completes their switching. Unlike other crossings in the area, this location does not have any alternate route that can be used to avoid delays.

Figure 3-33. Brush College Road Crossing at ADM East Plant

Eldorado Crossing

The Eldorado at-grade crossing is another primary area of concern as this is a US highway (36), a Class 2 truck route, and a crossing that includes significant rail blockages just east of MLK Jr. Drive. Traffic volumes on Eldorado exceed 20,000 vehicles per day and truck volumes range between 900 and 1,200 per day. **Figures 3-34** and **3-35** display the Eldorado crossing that includes both CSX and CN train movements. In addition, the blockages that occur at Eldorado also impact the intersection of MLK/Wood.

Figure 3-34. Eldorado Crossing

Figure 3-35. Eldorado Crossing

MLK and Wood Crossing

As previously mentioned, the MLK/Wood intersection at-grade crossing is closely linked with the Eldorado crossing. A number of CSX and CN movements block this intersection while the trains make reverse movements. **Figures 3-36** and **3-37** show the MLK/Wood Intersection. Wood and MLK are now both part of the 6W truck route and as such rail delays at this crossing can cause significant delays to trucks and the motoring public. The City of Decatur has explored improvements at this intersection to alleviate this problem. The potential improvement is discussed further in Chapters 5 and 6.

Figure 3-36. MLK/Wood Intersection

Figure 3-37. Eldorado and MLK/Wood Crossings

Figure 3-38 displays a breakdown of the Eldorado train blockages that also impact MLK/Wood. In total, there are currently 129 blockages per week that occur at the Eldorado crossing. Of this total, nearly 74% (95 trains) also block the MLK/Wood intersection. A further analysis shows

that of the 95 trains, 64 are CN trains and 31 are CSX trains. Figure 3-39 shows additional analysis of the trains that impact both the Eldorado and MLK/Wood crossings.

Figure 3-38. Eldorado Crossing Impact on MLK/Wood Intersection/Crossing

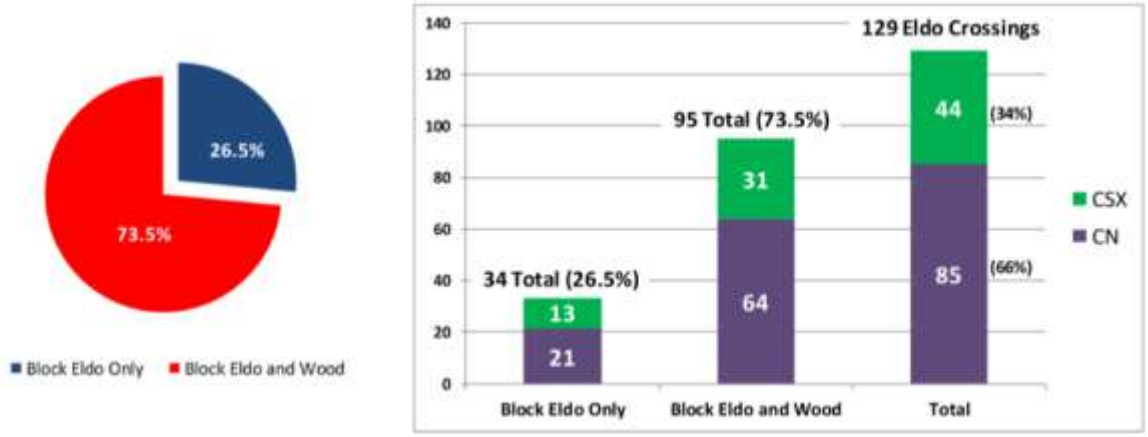
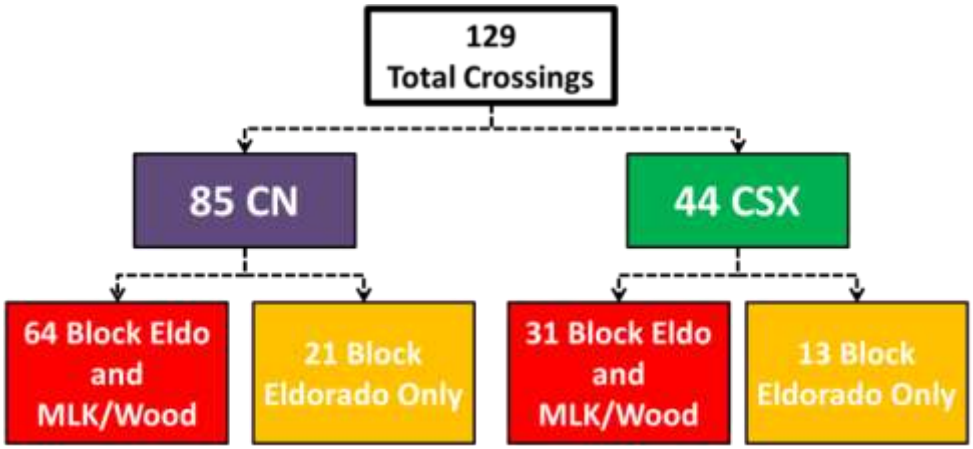


Figure 3-39. Breakdown of the Eldorado Crossings



Because of the significant number of train blockages that occur at Eldorado and MLK/Wood, area residents frequently use the Prairie Avenue underpass to avoid potentially long train delays. **Figure 3-40** displays typical travel patterns that are used to bypass Eldorado and MLK/Wood train blockages. **Figure 3-41** displays an overview the Prairie Avenue underpass while **Figure 3-42** shows the underpass at street level, traveling eastbound.

Figure 3-40. Alternate Routes used to Avoid Eldorado and MLK/Wood Blockages

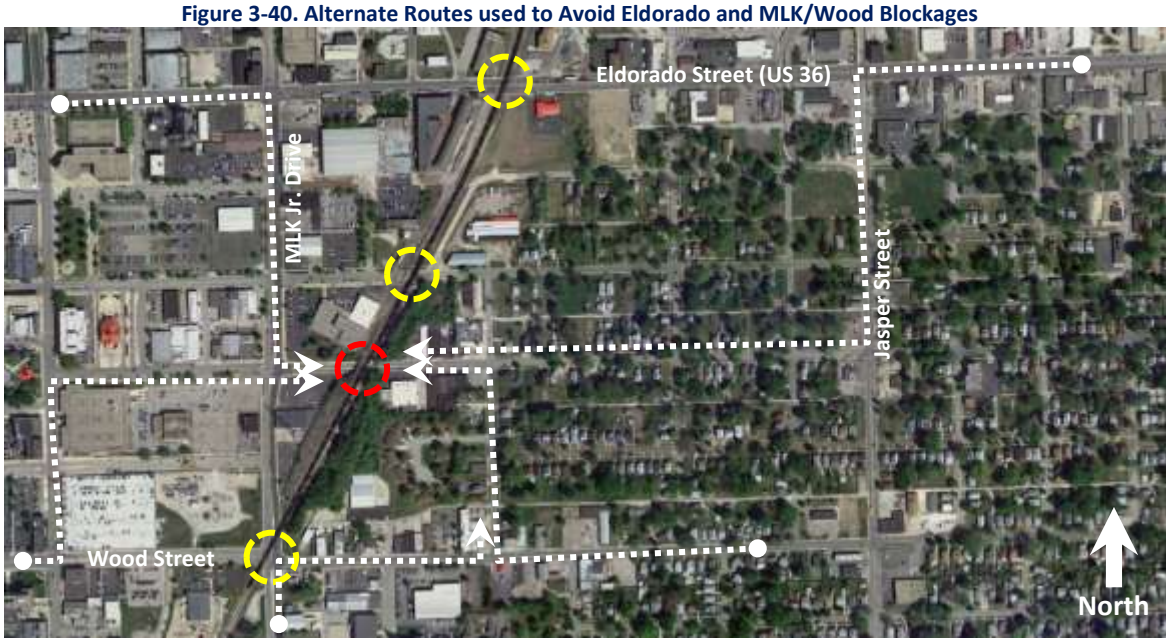


Figure 3-41. Prairie Avenue Underpass

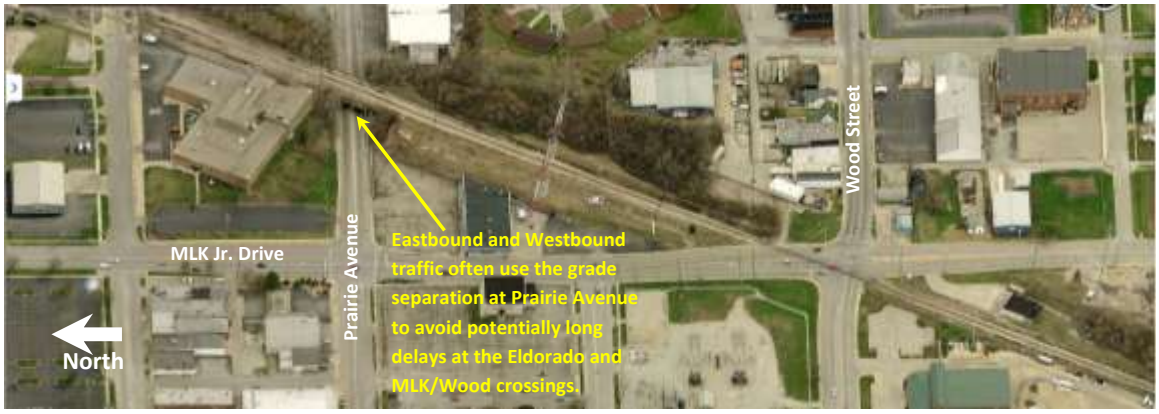


Figure 3-42. Prairie Avenue Underpass

Main, Water, and MLK Crossings

The CN crossings at Main, Water, and MLK Jr. Drive (see **Figure 3-43**) currently have 22 blockages per week that result in 6.7 hours of delay. The future year train scenario shows the potential to increase to 29 trains per week resulting in 7.9 hours of delay. By comparison to other crossings throughout the region, these crossings would not feel as much of an impact as other crossing throughout the region.

Figure 3-43. Overview of the Main, Franklin, and MLK Crossings

Main and Water function as a one-way pair so travel speeds approaching the crossing can be a concern; however, CN trains moving through this area are generally moving at relatively low travel speeds.. **Figure 3-44** shows the Main Street rail crossing.

Figure 3-44. Main Street At-Grade Crossing

Public Transportation Impacts

Lengthy rail delays have a significant impact on the transit system's ability to maintain schedules. Since DPTS operates on a pulse system, all buses need to arrive at the Transit Center at the same time to allow passengers to transfer from one route to another. DPTS, when possible, tries to work around train blockages by deviating from the scheduled route to an alternative route that avoids potentially long rail delays. In doing so, this adds miles and expense to the impacted routes, and causes the bus to miss a portion of the route – possibly stranding passengers. When there is no detour route, DPTS may send a van to meet the bus, making passenger transfers in the middle of the route.

In January 2011, DPTS collected data to identify how often train blockages impact the transit service. The information that was collected included number of train blockages, number of times the buses had to stop as a result of the blockage, number of times that buses deviated to avoid stopping, and number of passengers impacted by the delay. **Table 3-4** summarizes the results.

Table 3-4. Train Blockage Impacts on Decatur Public Transit System

Month (2011)	Number of Days Data was Recorded	Number of Train Blockages	Average Blockages per Day	Number of Times Buses Were Stopped	Average Number of Buses Stopped per Day	Number of Times Buses Deviated to Avoid Train Blockages	Average Number of Buses That Deviate per Day
January	19	223	11.7	135	7.1	88	4.6
February	24	345	14.4	165	6.9	180	7.5
March	11	153	13.9	64	5.8	89	8.1
Total	**54**	**721**	**13.4**	**364**	**6.7**	**357**	**6.6**

SOURCE: DPTS (January - March, 2011)

Over the course of almost two months (54 operating days, Monday through Saturday), the DPTS recorded 721 incidents where their operations were impacted by train blockages. Of this total, 364 buses had to stop as a result of the blockages (50%) which was almost 7 buses per day impacted. The other 357 buses were able to identify the train blockage far enough in advance to deviate from the scheduled route to use an alternative route to avoid potential delays. **Table 3-5** shows the transit related impacts in terms of delay and number of passengers impacted.

Table 3-5. Transit Related Impacts Resulting from Buses Stopped for Train Blockages

Month (2011)	Number of Days Data was Recorded	Number of Times Buses Were Stopped	Total Delay Time for Stopped Buses (hours:mins)	Number of Passengers On-Board Stopped Buses	Number of Buses that Missed Connections	Number of Passengers that Missed Connections
January	19	135	12:44	1,224	2	22
February	24	165	14:34	2,176	4	15
March	11	64	6:14	901	1	3
Total	**54**	**364**	**33:32**	**4,301**	**7**	**40**
SOURCE: DPTS (January - March, 2011)						
Projected Annual Total (based on date collected between Januai						
2011	304	2,050	188:39 *	24,226	39	225
* Equivalent of approximately 7.8 days.						
NOTE: Does not assume any adjustment for harvest season when rail delays are likely to increase.						

The 364 buses stopped for train blockages were delayed a total of 33 hours and 32 minutes. The total number of passengers on-board when these delays occurred totaled 4,301. During the approximately two month time period, train blockages resulted in seven buses missing their connection which impacted 40 riders. When these totals are projected over the course of a year, with no seasonal adjustment for harvest season when rail activity typically increases, it equates to over 2,000 buses being stopped resulting in 188 hours delay, or the equivalent of almost eight full days. Furthermore, the impact to transit riders equates to over 24,000 riders potentially being delayed on an annual basis.

The crossings that most often impacted by train blockages include:

1) **E. Wood at MLK**: detour routes are possible if the train is noticed in time; two bus routes are affected.
2) **E. Eldorado east of Morgan**: detour routes are possible if the train is noticed in time; two bus routes are affected.
3) **MLK north of Cerro Gordo**: detour routes are possible if the train is noticed in time; one bus route is affected.
4) **Brush College at Faries Parkway**: no detour routes; one route is affected.
5) **E. William at N. 23rd Street**: no detour routes; two routes are affected.

Figure 3-45 displays the overall DPTS route coverage along with the location at-grade rail crossings and grade separated structures.

Figure 3-45. DPTS Routes and Railroad Network

Non-Motorized Travel

Non-motorized travel, while a relatively small percentage of the overall mode choice in the Decatur area, is still an important consideration from a connectivity and safety standpoint as it relates to potential rail and truck conflicts. **Figure 3-46** shows that even in a heavily travelled truck corridor (IL 48, near Brush College Road) that some individuals will still bike, or walk, to work. With the recent emphasis on Complete Streets, it is even more important to consider bicyclists and pedestrians in the planning process.

Figure 3-46. Bicyclist on IL 48 (near Brush College Road)

Non-motorized travel, as it relates to potential rail and truck conflicts, becomes primarily a safety issue. **Figure 3-47** shows the regional bicycle facilities in comparison to the regional railroad network. As part of the DUATS 2040 LRTP, the project team will further address the potential rail and bicycle conflicts.

Figure 3-47. Decatur Area Regional Trails and Railroad Network

4. State of the Transportation System

The two part issues identification process – public/stakeholder input and technical evaluation – identified freight related issues, deficiencies and concerns. This chapter, *State of the Transportation System*, provides a comprehensive summary of the major issues/conclusions identified through the DATES process and sets the stage for potential improvements included in Chapter 5. In many cases the issues/conclusions will not be new to area residents or local officials; however, through the DATES analysis the project team has been able to quantify and document the problems, causes and impacts related to regional freight movements. Ultimately, this information will be used to prioritize improvements with the overall goal of increasing the efficiency of the Decatur regional transportation system.

❖ The Area's Railroad Network is Currently Operating Well

This statement may surprise many area residents, officials and business owners who can provide numerous examples of frequent at-grade rail blockages and lengthy travel delays. Throughout this study, individuals identified specific crossings that were a concern and gave examples of how train delays caused them to miss meetings, appointments or other events. Considering insolated crossings, or events, might lead one to conclude that the rail system is failing and in need of an overhaul. However, when analyzed as a comprehensive system, the project team has concluded that given the current situation that the area's railroad network is operating well.

Not many, if any, communities the size of Decatur have three Class 1 railroads, three rail yards located in close proximity to each other in a well-developed urbanized area (one of which, Norfolk Southern, is one of the largest flat switching yards in the world), and several large multi-national industrial and manufacturing companies operating in the region. Given these conditions, and considering the number of trains moving through the region on a daily basis, the rail network could be operating much worse which would likely result in even longer at-grade rail crossing delays.

With this said, this statement should not be misunderstood and used as the basis to do nothing. The frequent and sometimes lengthy delays create potential safety concerns, impacts quality of life and contributes to air-quality issues within the region. The future year rail scenario also demonstrates that a relatively modest increase in rail activity over the next several years could increase at-grade blockages and result in even longer travel delays – also intensifying the safety, quality of life and air-quality concerns. While the current rail system is operating well given the current conditions, it would not take much too potentially push the system to over capacity. This makes it all the more critical for local and state officials to act now to implement the recommend improvements set forth in Chapter 6.

❖ At-Grade Rail Crossings Impact All Transportation Users

The three Class 1 railroads are a critical component of the regional transportation network and life line to several area industries. With this extensive rail network comes some negative impacts including frequent at-grade rail blockages and long travel delays that have been documented in the DATES process. The delays impact all transportation users including the motoring public, transit riders, non-motorized users, and emergency responders.

While travel delays are the obvious impact to the motoring public, the uncertainty – not knowing if the train blockage will result in a few minutes of delay or possibly an extended delay – causes motorists to sometimes take unsafe actions. As part of the data collection and outreach effort, it became clear that area residents have become so accustomed to frequent and long delays that most have essentially developed "escape routes" to avoid train blockages. These escape routes often consistent of cutting through neighborhood streets to race a train to an open crossing, or to reroute to a corridor that is grade separated.

Train blockages also impact transit riders and non-motorized users. Transit riders in particular can be significantly impacted by a delay as riders can miss their downtown transfer. Decatur Public Transit System (DPTS) drivers can, if identified in time, utilize an alternative route ("escape routes") to avoid potentially long train blockage delays. The DPTS has also utilized vans to come pick-up passengers that are impacted by long train crossing delays. The potential improvements, recommended improvements identified in Chapters 5 and 6 take into consideration the impacts on transit riders and non-motorized users and looks for opportunities to eliminate or mitigate these concerns.

❖ The Area's Roadway Capacity is Impacted by At-Grade Crossings

As part of DATES, the project team updated the regional travel demand forecasting model and socioeconomic data. The updated model was used to evaluate the future year (2035) transportation conditions to identify area roadway segments operating at-capacity or over-capacity (see Chapter 3 for capacity results). This capacity analysis is based on existing and projected daily volumes and it is important to note that the model is one tool used to help identify areas of traffic congestion.

In reviewing the model capacity results, the project team determined that while some corridors are identified as operating at or over-capacity, the majority of the capacity issues are concentrated in the a.m. and p.m. peak hours and do not require extensive improvements or additional capacity. In fact, many of the corridors have constraints, such as limited right-of-way, that would make adding capacity difficult and in some cases impossible. Furthermore, many of the roadway segments identified in the model as at-capacity or over-capacity are generally contained to a few hours of "congestion" each day. When the congestion extends beyond the peak hours, and is fairly consistent throughout the day, then some action may be warranted.

One such corridor that falls into this category is Brush College Road, between William Street and Faries Parkway. This roadway segment currently operates over-capacity for an extended period, has sight distance concerns, access management concerns at side streets and driveways, and a

bottleneck (capacity, safety, and drainage issues) at the Norfolk Southern underpass. DUATS, and the City of Decatur, have long recognized the need to address this corridor and are currently completing the Brush College Road corridor study which identify appropriate improvements. Preliminary recommendations, which are discussed further in Chapters 5 and 6, include adding capacity (a 4/5-lane cross section and intersection improvements at William Street, Marietta Street, and Faries Parkway), constructing a new overpass at the NS rail yard, and constructing a grade separation at Faries Parkway (including the Bruch College Road and NS at-grade rail crossing, located just north of Faries Parkway).

The Brush College Road corridor is a great example of how at-grade rail delays can cause, or intensify, traffic congestion within the region. Consider the Brush College Road and Faries Parkway intersection, and the nearby NS at-grade crossing. During the Brush College Road corridor study, the project team utilized a VISSIM model to evaluate the current and future year traffic operations. This model, which provides a detailed analysis of traffic operations, was also used to evaluate the impact of a 20-minute train blocking the NS at-grade crossing. Keep in mind that DATES found that this crossing can sometimes be blocked for a much longer time which would make the situation even worse.

The results showed that improving the Brush College Road corridor, by adding capacity, would sufficiently accommodate existing and future year traffic volumes. However, when a 20-minute train blockage was added to the scenario, the model showed extensive delays which resulted in northbound traffic backing-up along Brush College Road from Faries Parkway to Marietta Street (a similar condition existed on the north side of the NS crossing along Brush College Road). It is important to note that a 20-minute train blockage does not equate to 20-minutes of travel delay. Once a train clears the at-grade crossing, it takes much longer than 20-minutes for the Brush College/Faries intersection to process the delayed vehicles and return traffic operations to a normal operating condition. In this case, which could be applied to other crossings throughout the region, excessive at-grade crossing delays can be the primary factor in causing traffic congestion. Motorists may have the perception that a particular roadway, or corridor, is congested when in reality the at-grade train blockages may be creating the poor traffic conditions. As such, it is critical to implement the recommended plan improvements identified in Chapter 6.

❖ The Region Needs to Better Utilize Major Transportation Corridors

The previous statements have highlighted significant travel delays and capacity concerns throughout the region. Given that many of the corridors have constrained right-of-way the region needs to focus on making better use of existing transportation facilities by:

1. Maintaining the roadway infrastructure is a state of good repair to facilitate the efficient and safe movement of truck traffic through the region. Due to the heavy truck volumes in the region, many area roads quickly deteriorate and require minor, or potentially significant repairs. To continue to safely and efficiently accommodate freight movements, the region should focus on maintaining, or improving, priority corridors in a state of good repair.

2. Utilizing technology to more efficiently and effectively move vehicles and goods along, and through, major corridors. Possible improvements could include upgrading existing traffic signals to more effectively move people and goods. Signal timing improvements, and signal coordination, should be evaluated to determine in timing enhancements would better facilitate the movement of vehicles through major corridors with particular attention given to major freight corridors and designated truck routes. As part of the stakeholder outreach effort, improving the signal timings along major corridors was one of the three recommendations identified as a possible solution to better move people and goods within the region.
3. Ensuring adequate accommodations for pedestrians, bicyclists, and transit users by creating safe waiting areas, crossings, and connections to regional multimodal facilities. These elements are extremely critical if corridors are improved with the focus of more efficiently moving freight within existing major corridors. In taking a Complete Streets approach, it is important that area roadways accommodate all transportation users. This becomes even more critical along major transportation corridors that are carrying significant volumes of freight and where potential conflicts between trucks and other transportation modes could exist.

❖ The Area Could Fall Into Non-Attainment Status

One of the concerns identified at the start of the DATES process was the potential for stricter environmental, and specifically air-quality, standards to be implemented by the United States Environmental Protection Agency (EPA). In recent years the EPA has been concerned about increasing emissions caused by industrial activity, technology improvements, traffic, and by many other factors. The EPA is mainly concerned with emissions which are or could be harmful to people. EPA calls this set of principal air pollutants, criteria pollutants. The criteria pollutants are carbon monoxide (CO), lead (Pb), nitrogen dioxide(NO2), ozone (O3), particulate matter (PM), and sulfur dioxide (SO2).[4] There are many sources of emissions including point sources, such as industries and factories, and mobile sources, such as cars, trucks, and locomotives.

While the Decatur region is currently in compliance with the air-quality standards, the potential exists that the region could fall into non-attainment status if the emission standards are increased, and/or the point and mobile sources within the region increase. If this were to occur, DUATS would be required to develop an action plan, including a congestion management plan, to reduce the region's emissions. DUATS has been, and will continue to monitor this issue and take a proactive approach to be ready to respond to any potential changes. In the meantime, the DATES recommended plan includes projects that will help reduce travel delays and improve the overall efficiency of the region's transportation system. In doing so, these improvements and infrastructure improvements directly address the air quality and environmental concerns.

[4] EPA, *Air Pollution Emissions Overview*; http://www.epa.gov/oaqps001/emissns.html

❖ Harvest Season Results in Increased Truck and Rail Traffic

The DATES process has documented the concerns related to at-grade rail crossings and truck traffic in the region. Another factor that is unique to the area is harvest season which typically increases rail and truck activity within the region. ADM is one of the largest processers of corn and soy beans in the world and the harvest season, which is heavily dependent upon weather conditions, varies year-to-year. Generally speaking, the harvest season typically begins by mid-October and can on occasion continue through the end of the year. As a result, the normal at-grade train blockages, and travel delay, is likely to increase during harvest season making the travel conditions worse for two or three months each year.

5. Potential Improvement Strategies

This chapter identifies potential improvement strategies to address the transportation system needs documented through the issues identification and technical evaluation process. Ultimately, the goals of the improvement strategies are to:

- Enhance multi-modal movement of freight through the transportation system to increase mobility and access for all users.
- Increase efficiencies in the movement of goods and materials within and through the Decatur region.
- Provide an economical means of increasing capacity, increase regional economic competiveness and increase employment opportunities.
- Identify ways to restructure, modernize and improve the efficiency and reliability of rail traffic and the movement of freight,
- Improve traffic flow by eliminating/minimizing delays at at-grade rail crossings.
- Enhance regional freight mobility, develop a safer, more secure and efficient system while mitigating system impacts.

Overview of the Deficiencies

The DATES evaluation process helped identify the major concerns related to freight movement in the region. Overall, rail delays at at-grade crossings are clearly the primary concern. In many respects, the rail blockages intensify the regional truck traffic issue as trucks are delayed the same as the motoring public. After a rail crossing blockage clears, the impact/delays to the motoring public does not immediately end as it often takes several minutes for traffic to return to normal operating conditions. If the queue includes a large number of trucks, the startup time to clear the queue can take even longer due to the slower truck acceleration speeds.

One of the major objectives of the DATES process was to quantify the at-grade blockages, and hours of delay, so it is possible to prioritize improvements. The analysis showed that the following three locations are the top rail concerns in the area:

- Brush College Road Corridor – NS underpass and crossing @ Faries Parkway

- Eldorado Crossing (east of MLK Jr. Drive)
- Brush College Road @ ADM Plant Crossing

To a large extent, the most significant regional truck concern has been addressed by rerouting truck traffic out of the Decatur CBD to MLK Jr. Drive. This has been very successful in enhancing and revitalizing the downtown and has helped create a safer and more pedestrian friendly environment. However, truck issues still remain and include the following:

- Heavy truck activity at the I-72 interchanges at IL 48 and US 51, near Forsyth
- Restricted truck access to the southeast portion of the study area
- Overall truck traffic impact on roadway maintenance

A range of potential improvements and mitigation strategies were developed and evaluated for the Decatur region. The compact, well-developed urban setting presents significant challenges and in many cases limits the ability to construct potential improvements. The following sections discuss the mitigation and improvement measures in further detail.

Railroad Operations Management

A range of potential railroad mitigation strategies were considered within the Decatur area. For the most part, the improvements generally include physical changes to the railroad network (i.e., grade separation). In addition, the project team considered lower cost improvements that look to increase the efficiency of the current system, but in reality are not likely to completely eliminate the blockage and delay issues that have been documented.

A railroad operations management plan would look to increase the efficiency of the current system by adjusting schedules (postpone rail activity to off-peak periods) and encouraging operational agreements allowing the Class 1 railroads to share each other's trackage. While this sounds good in theory, the fact of the matter is that industry demands, to a large extent, dictate when products are needed and when rail maneuvers occur, thus making schedule adjustments difficult. Operational agreements can also be difficult as the Class 1 railroads are generally not inclined to share each other's trackage unless there are clear benefits to both parties.

With this said, the Decatur area could benefit from the formation of a Decatur Area Joint Operating Committee. This committee would include representatives of the Class 1 railroads, major industries, and area officials who would meet a few times a year to discuss rail issues and possible solutions. Similar committees have been formed, and successful, in other locations, including the Chicago metropolitan area which included a significant number of railroad stakeholders that continue to work together to increase the overall movement of freight and passengers through the region. In reality, the formation of the joint operating committee is likely the only way that schedule changes and operational agreements would even be considered a viable solution to address the area rail issues.

Brush College Road Corridor Improvements

Brush College Road is a major north-south roadway that has significant truck and rail activity. Much of this activity is generated by ADM located near the intersection of Brush College Road and Faries Parkway. Brush College Road is a critical corridor in the regional transportation network as this road provides a continuous connection between I-72 and William Street (IL 105). The corridor includes several mobility and safety concerns which is the primary reason the City of Decatur is currently conducting the Brush College Road Corridor Study which evaluates traffic operations, and rail activity, from William Street (IL 105) to just north of Faries Parkway. These Brush College Road study highlighted the following:

- Capacity concerns that extend from William Street to Faries Parkway.
- Bottleneck and safety concerns at the existing NS underpass.
- Frequent train blockages and delays at the NS crossing, just north of Faries Parkway. This crossing has the highest number of train blockages and travel delays within the Decatur area and impacts numerous motorists and transit riders.
- Train blockages and delays at the ADM Plant crossing, which under a future year scenario could increase significantly.
- Substandard or missing non-motorized accommodations.

Figure 5-1 displays the preliminary plans of the Brush College Road Corridor Study which include widening the roadway from William Street to Faries Parkway. The plans also include the construction of an overpass at the NS rail yard and construction of an overpass at Faries Parkway (and adjacent NS at-grade rail crossing). Both overpasses would include four-lanes and non-motorized accommodations.

Figure 5-1. Brush College Road Corridor Improvements

SOURCE: URS Corporation.

Widen Roadway between William Street and Faries Parkway

The Brush College Road Corridor Study recommends that the corridor be widened between William Street and Faries Parkway to a 4/5-lane cross section. This would match the segment of Brush College, north of Faries, which is already 5-lanes and accommodate future year traffic projections. Intersection capacity improvements would also be completed at William Street and Marietta Street (including a new traffic signal). The intersection at Faries Parkway is discussed in greater detail as part of the proposed grade separation.

Construct an Overpass at the NS Rail Yard (current underpass)

The Brush College Road Corridor Study evaluated the NS underpass to address safety and capacity concerns. This underpass also ties into the overall capacity concerns previously identified along the segment of Brush College, between William Street and Faries Parkway. Two options were considered to address the NS underpass. One evaluated the reconstruction of the underpass to add capacity and bring the structure up to current design standards. A second option evaluated the construction of an overpass at this location which was ultimately selected as the preferred improvement. **Figure 5-2** displays a graphic of this proposed NS overpass.

Figure 5-2. Proposed Brush College Road Overpass at NS Rail Yard

SOURCE: URS Corporation.

Grade Separate NS Crossing (just north of Faries Parkway)

The DATES analysis found that the NS crossing of Brush College Road, just north of Faries Parkway, has the highest number of train blockages and delays per week within the Decatur area. According to the RTC model data, this crossing currently has 198 blockages per week which causes the crossing to be blocked for 17 hours. Additional data, and public input, shows that this crossing is often blocked for an extended period of time (sometimes over 30 minutes). The future year rail scenario shows that the blockages could increase to 234 per week and the delay could reach 24 hours per week – both of which would continue to represent the highest number of blockages and delay within the region.

As part of the Brush College Road Corridor Study, the project team realized that adding capacity between William Street and Faries Parkway, including a new NS overpass, would not address the underlying capacity issue in the corridor – that being the extensive delays that occur at the NS crossing just north of Faries Parkway. Detailed analysis, including the use of VISSIM to model the train delay impact on traffic operations, showed that even with the Brush College Road improvements, a 15-minute train delay at the NS crossing would result in traffic backups

extending from Faries Parkway back to Marietta Street. Furthermore, once a train cleared the crossing, the impact was felt for almost another 15 minutes, or longer, as traffic operations returned to normal.

The project team began to evaluate possible improvements to address the NS crossing. Ultimately, given several constraints near the Faries Parkway intersection, it was concluded that constructing a grade separation of the NS Crossing, and Faries Parkway, was the only viable solution to address the frequent train blockages and long travel delays. **Figure 5-3** displays the proposed overpass which would include a ramp located in the southeast corner of the intersection to facilitate the movement of traffic to/from Brush College Road and Faries Parkway. **Figure 5-4** shows additional street level images of the proposed overpass.

Figure 5-3. Proposed Brush College Road Overpass at Faries Parkway (Aerial View)

SOURCE: URS Corporation.

Figure 5-4. Proposed Brush College Road Overpass at Faries Parkway (Street Level)

On Brush College, looking south toward new overpass.

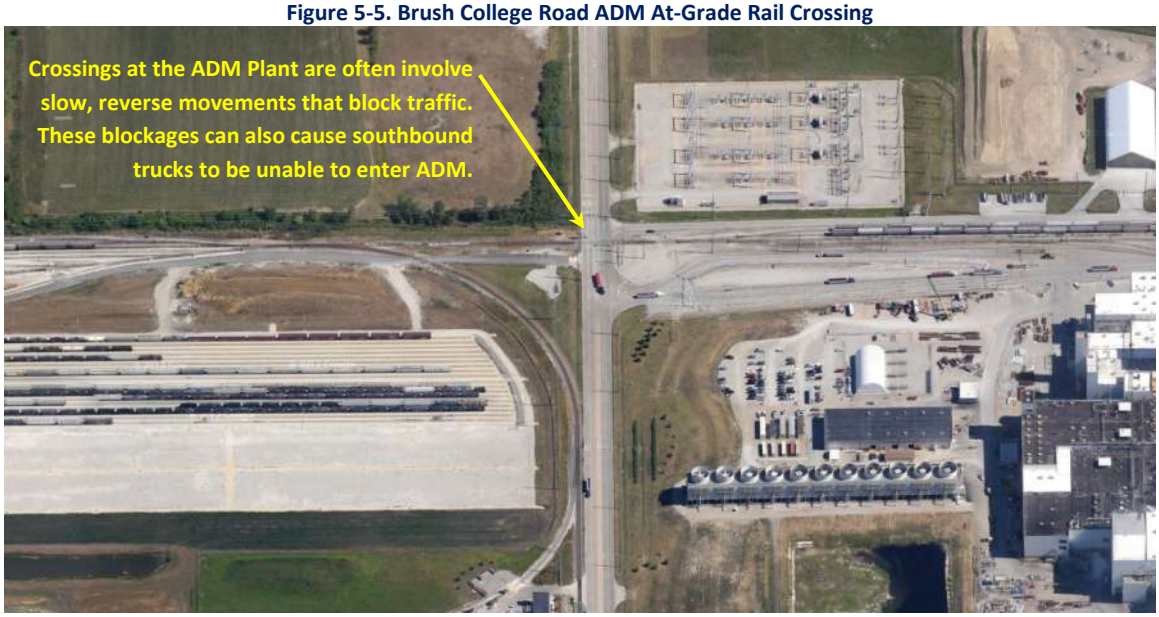
On Faries Parkway, looking west at the Brush College Road overpass. The NS rail line is on the right side of this photo.

SOURCE: URS Corporation.

Monitor ADM Rail Crossing (just south of Brenaman Road)

The DATES analysis found that the ADM rail crossing (see **Figure 5-5**) that moves trains into the ADM East plant currently causes 22 blockages per week resulting in approximately 7 hours of delay. The future year rail scenario shows that this crossing could potentially more than double to 48 blockages per week resulting in almost 19 hours of delay. While the actual numbers could vary significantly, this scenario shows that this particular rail crossing has the potential to become one of the more significant mobility concerns within the Brush College Road corridor.

Figure 5-5. Brush College Road ADM At-Grade Rail Crossing



It is important to mention a few concerns related to this crossing. First, the train movement volumes, and blockages, are a dependent function of how ADM does their switching and is not related to any Class 1 rail operations. If ADM increases their production, this crossing is likely to see increased activity. Secondly, the overall impacts of the blockages and travel delay is greatly dependent on the time of day the crossing take place. If a large number of train movements occur during off-peak or late evening/early morning hours, then the delays will not have as great of an impact on the traveling public. The DATES project team has determined that based upon the information available at this time, this intersection should be monitored and no physical improvements are recommended at this time.

Finally, should this crossing eventually reach a level that the blockages and delays warrant a grade separation, this improvement could be constructed at any time. The ADM crossing is located far enough away from the Brush College/Faries improvements that it could be constructed as an isolated project. In contrast, the improvements between William Street and Faries Parkway are part of a comprehensive solution to address numerous corridor deficiencies. While these improvements are likely to be constructed in phases, ultimately the complete package of improvements between William Street and Faries Parkway will provide the appropriate level of service to accommodate future year traffic levels.

Estimated Costs of Improvements

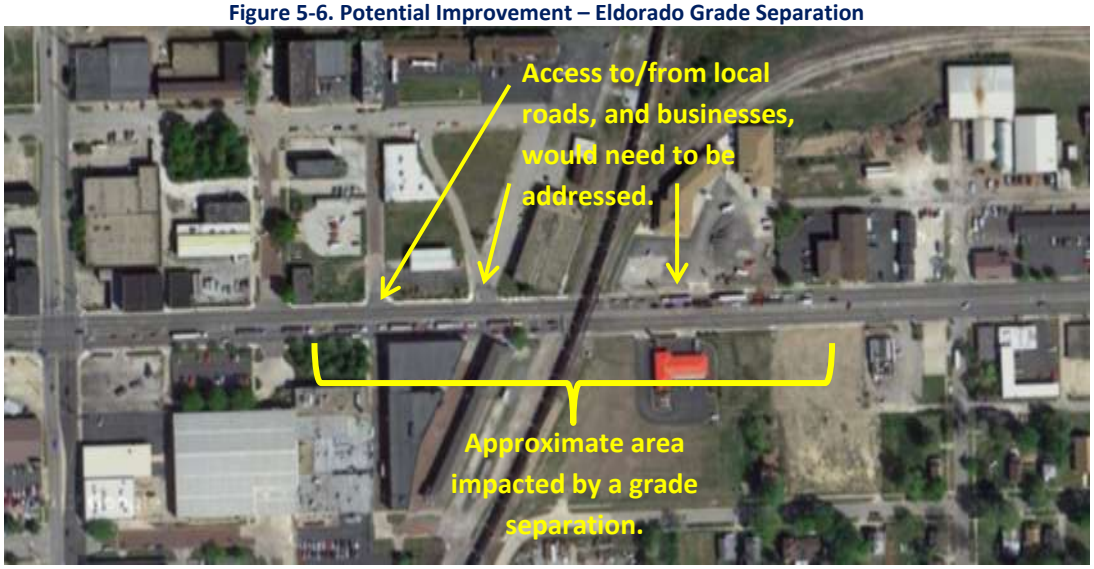
At the time the DATES report was being completed, the project team for the Brush College Road corridor study was refining cost estimates for the improvements between William Street and Faries Parkway. As previously documented, this segment of Brush College Road includes several improvements but it is the comprehensive package that will be needed to achieve an acceptable level of mobility within the corridor. In total, the improvements between William Street and Faries Parkway are estimated to cost approximately $67,900,000 (this includes a 20% contingency but does not include right-of-way acquisition costs). This cost also includes all utility relocations that the project team is aware of, but does not include the costs for relocating the Ameren Illinois substation near Olive Street.

The two new grade separated structures, one at the NS railroad yard and one at Faries Parkway, would cost approximately $19,500,000 and $8,740,000 respectively. In addition, there would be an additional $11,700,000 required to construct MSE walls. The cost of the NS railroad overpass also includes a 40% increase for staged construction that will allow traffic to continue to use Brush College Road during the construction process (however, there will likely be times that the road would be completely closed to traffic). All of these costs are included in the total cost estimate of $67,900,000.

Eldorado Street

The DATES analysis showed that the Eldorado Street crossing currently has the second highest number of train blockages per week at 129 and the second longest delay at just over 15 hours. Eldorado Street is a US highway (US 36) and a primary east-west truck route, as such, a grade separation was evaluated at a planning level. **Figure 5-6** shows the approximate location of an overpass. It is also interesting to note the number of trucks delayed by the train blockage in this figure – seven eastbound and two westbound. This is a great example of the negative impacts that at-grade train blockages have on other freight (truck) movement in the region.

Figure 5-6. Potential Improvement – Eldorado Grade Separation



While the specific details regarding an at-grade structure were not identified, the planning level cost estimate to construct a grade separated structure at Eldorado is approximately $19.8 million in 2012 dollars. This cost is based on a similar grade separation project that was constructed as part of the 10th Avenue project in Springfield, IL. Constructing a grade separation at this location would also likely require some local street closures and would raise some access issues to nearby businesses. However, this solution would eliminate 129 current (147 future year) blockages, and 15 (over 18 in the future year) hours of delay and would enhance all freight movements in the region.

Eldorado Street and MLK/Wood Crossings

As described in the *System Performance* chapter, nearly 75% of the train blockages that occur at Eldorado Street also cause blockages at the intersection of MLK Jr. Drive and Wood Street. Given this high percentage, and that the MLK/Wood intersection is part of the 6W truck route, the project team determined that additional improvements should be considered to mitigate, or eliminate, the blockages at the Eldorado and MLK/Wood grade crossings.

Two improvements were identified for consideration. It should be noted that these improvements will not fully eliminate the at-grade crossings at Eldorado; however, they could potentially reduce the number of blockages and delays to a more manageable, and perhaps acceptable, level. In addition, these improvements could be combined with a grade separation project at Eldorado to completely address the rail crossing issues at both locations. The two improvements also have benefits, discussed in further detail in the following sections, which extend beyond these two rail crossing locations.

Construct CN Yard Flyover

This scenario explored the option of constructing a direct connection from the CN track that comes into Decatur from the northwest (see **Figure 5-7**). This direct connection would eliminate the reverse movements that occur at Eldorado (refer to the numbers in **Figure 5-7** to follow the reverse movements). The reverse movements occur when:

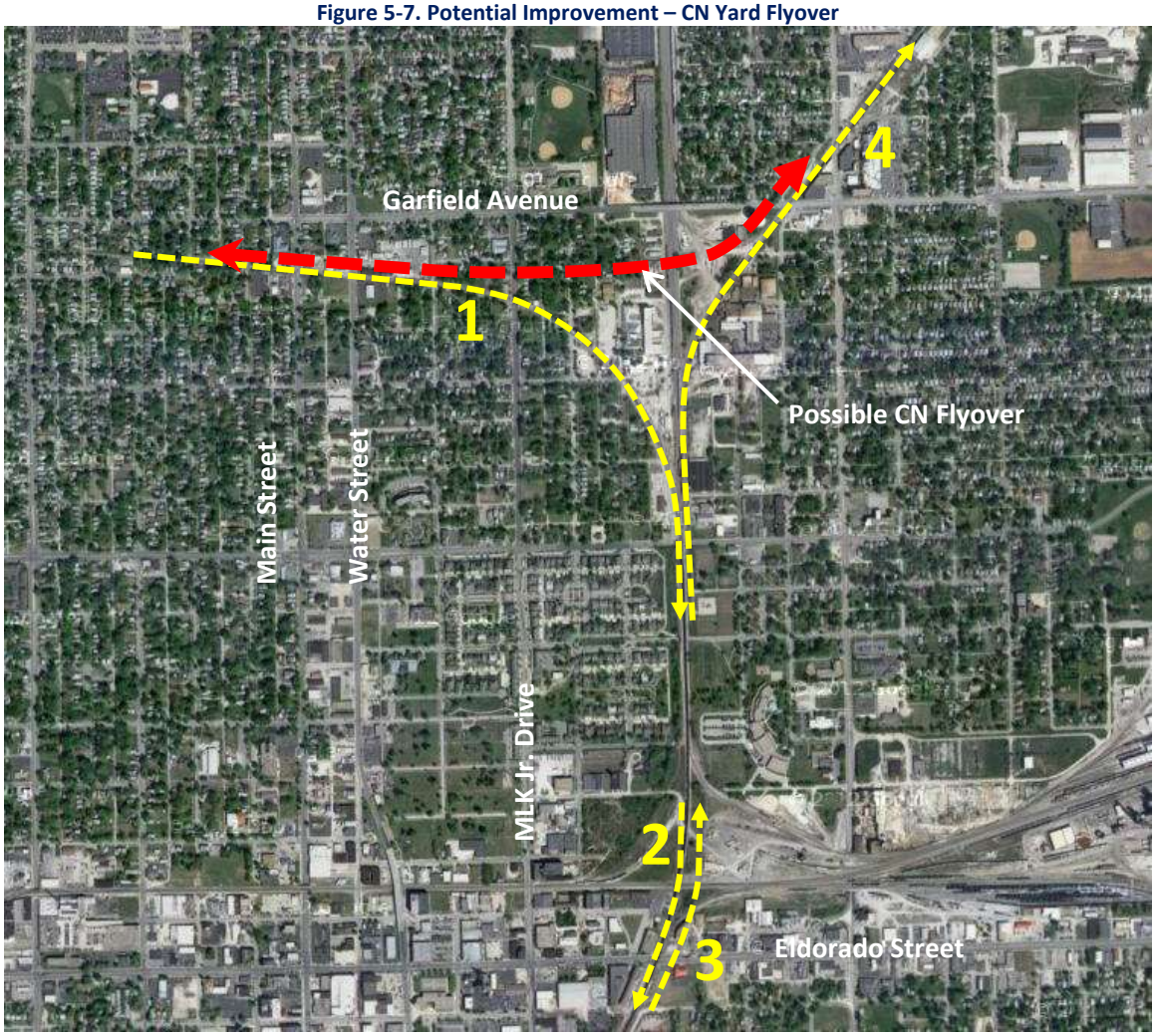
1) Trains enter the Decatur area from the northwest and continue south toward the Eldorado Street crossing.
2) Trains will block the Eldorado Street crossing as they continue south. In addition, the majority of these trains are likely to block the MLK/Wood intersection.
3) Once the trains have cleared, they begin the reverse movement and travel north.
4) Trains will then continue north-northeast into the CN yard, and the ADM cars will go later to ADM (except for the occasional unit train that goes directly to ADM).

As the project team considered the direct connection, it became clear this option would have significant impacts on nearby existing residences, including the acquisition of several homes. Furthermore, it was determined that a direct connection would require grade separation as it would cross multiple tracks in the CN yard – which is not feasible. As such, the project team evaluated a flyover structure which would grade separate the track over the CN yard. This

improvement could potentially begin west of Main Street eliminating crossings at Main, Water, and MLK Jr. Drive – 22 blockages per week and 7 hours of delay at these crossings.

To construct a flyover would require a large structure that would begin to elevate west of Main Street, continue over the CN yard, and touch back down north of Garfield Avenue. This improvement would cover approximately 6,000 feet consisting of mainly a new structure with limited fill. It would also require a yard for receiving, delivering, and re-assembling near ADM.

Figure 5-7. Potential Improvement – CN Yard Flyover



The estimated cost, in 2012 dollars, to construct the flyover is $135 million. This estimate is based on similar CREATE projects that ranged between $60 million and $140 million, with several averaging around $90 million. One significant difference between the CREATE projects and the situation in Decatur, is that CREATE was constructing grade separation for passenger rail service. Passenger service trains can operate on steeper grades which ultimately would require a shorter structure. The Decatur structure would be constructed to carry freight and as such would require a longer structure. While this scenario offers several benefits, ultimately the cost and significant neighborhood impacts are so great that this project is not considered a feasible alternative.

Extend CSX West End Yard Lead

This scenario explored the option of constructing a new tail track west of the CSX yard, parallel to the NS main track (see **Figure 5-8**). This potential improvement was explored because it would eliminate the CSX reverse movements that occur at Eldorado and MLK/Wood by allowing CSX to build trains on the new trail track. To construct this improvement would require a minimum of 3,500 feet of new track, a new diamond across CN, and signal modifications to accommodate crossing rail traffic.

Figure 5-8. Potential Improvement – Extend CSX West End Yard Lead

The cost, in 2012 dollars, to complete this project is estimated to be approximately $4,482,000. This cost includes approximately $1,225,000 for new track, including land acquisition and site preparation, $175,000 for a new diamond, $1,500,000 for signal improvements, and a 40% contingency of $1,160,000.

While this option would remove some train blockages, and specifically the CSX reverse movements, at Eldorado and MLK/Wood, the improvement does not eliminate the CN blockages and reverse movements. In addition, the construction of the new tail track to the west would create a new at-grade crossing of MLK Jr. Drive, and could create additional at-grade crossings at roads further to the west. In sum, this improvement project would reduce the blockages and delay at Eldorado and MLK/Wood, but it would also shift the problem to other roadways in the area. The project team determined that moving the rail crossing blockages and delay to other locations was not a preferred alternative.

Relocation of Rail Facilities Beyond the Urbanized Area

The relocation of existing rail facilities outside the Decatur urbanized area was explored as a possible solution to address the current rail issues. Two options were explored including the rerouting of CN to access the rail yard from the north and the relocation of the CSX yard out of the downtown area. These scenarios are discussed in further in the following sections.

Reroute CN Tracks

This scenario explored the option of rerouting the CN tracks to access the rail yard from the north part of the region (see **Figure 5-9**). This potential improvement was explored because it would:

- Eliminate train crossings, and traffic delays, at Main, Water, and MLK Jr. Drive
- Eliminate the CN reverse movements that impact Eldorado and MLK/Wood
- Allow trains to enter the area at higher speeds (currently CN trains entering from the northwest travel at speeds between 5 and 10 MPH)
- Improve quality of life for residents living in proximity to the existing CN rail line
- Allow for the reuse of the rail corridor to develop a non-motorized trail

The total estimated cost, in 2012 dollars, is approximately $33,900,000. This includes a track construction cost of $18,700,000, signaling costs of $2,000,000, property acquisition costs of $1,700,000, crossing improvements (ten crossings) costs of $1,800,000, and a 40% contingency of $9,700,000.

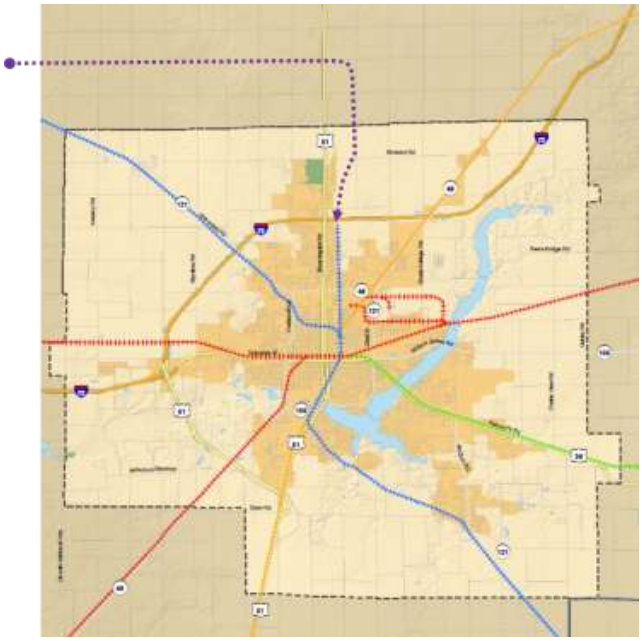
While this scenario offers several positive benefits, it also shifts the rail issues to another part of the region and does not completely solve the problem. Moving the at-grade crossings to new locations could also require grade separation which would increase the overall project cost. This scenario would also involve environmental analysis and land acquisition which could quickly cause the overall cost to climb depending on the final alignment and location where the new track would tie into the existing CN track. Ultimately, the costs associated with this project could be used to complete other, more beneficial projects within the region.

Relocate CSX Yard (Outside the Decatur Urbanized Area)

This scenario explored the option of relocating the CSX rail yard outside of the Decatur urbanized area (see **Figure 5-10**). This potential improvement was explored as a way to remove one of three rail yards in the area and since Decatur is the end of the line for CSX, it was considered the most likely candidate to move. The cost, in 2012 dollars, to relocate the CSX yard was estimated to be approximately $19,100,000. This cost was based on a similar construction project from Springfield, IL (10th Avenue Corridor Consolidation).

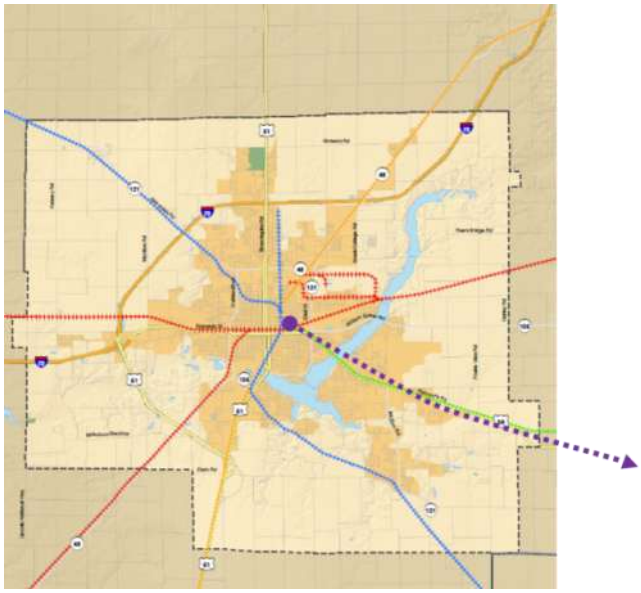
While the relocation of a rail yard appears to be a good option, it does not necessarily eliminate the CSX related issues. Moving the yard would eliminate the switching moves in the urbanized area but trains would still need to move through the Decatur area to serve local industries. It is also important to note that there is no incentive for CSX to do this type of improvement and funding would likely have to come from other sources. Finally, moving the rail yard would also leave an open area within downtown that might be difficult, and extremely costly, to redevelop given the likely environmental clean-up that would be necessary. As such, the project team does not view this option as a feasible solution to address the rail issues in the region.

Figure 5-9. Reroute CN Alignment



NOTE: The dashed purple line shows a conceptual connection that would reroute the CN alignment to come in from the northern part of the urbanized area.

Figure 5-10. Relocate CSX Yard (Outside Downtown)



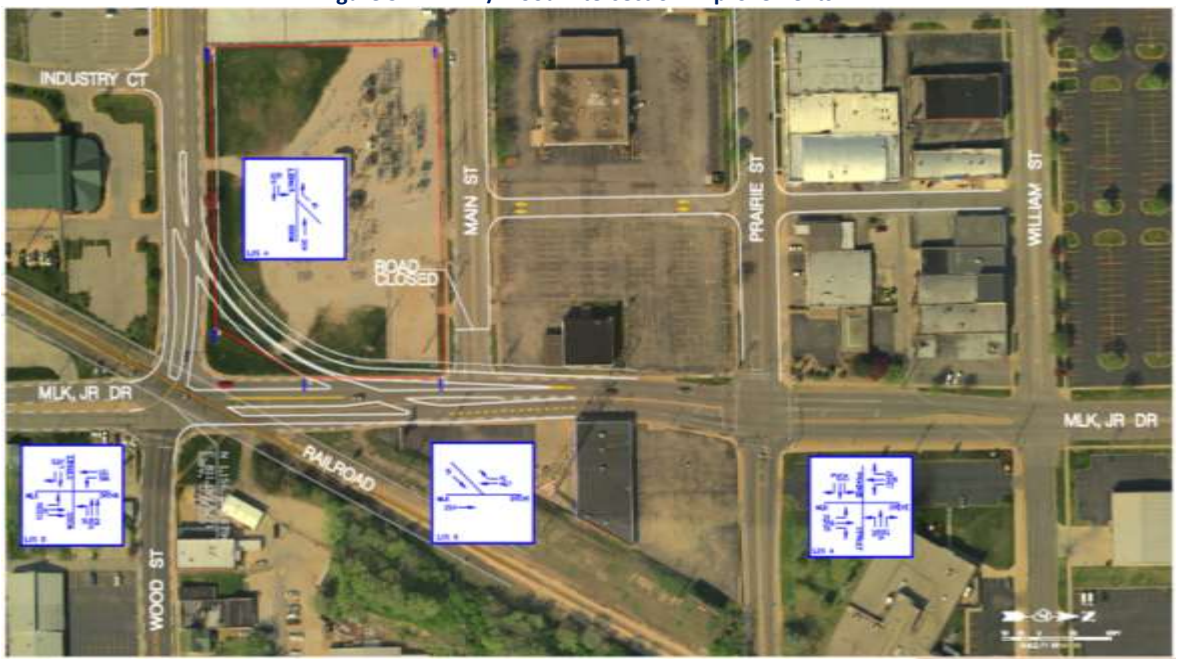
NOTE: The dashed purple line shows a conceptual improvement that would relocate the CSX yard outside the urbanized area.

Truck Improvements

While truck traffic is a concern within the region, it is certainly not on the same level as rail blockages and delays. This is supported by the public mobility survey, freight survey and stakeholder interviews which generally concluded that truck traffic is not a major concern in the region. In fact, the rail blockages frequently cause trucks to be delayed adding to the inefficient movement of freight through the region.

There is however some truck related improvements that would potentially mitigate truck impacts within the region. First, existing truck routes should be explored to identify opportunities to coordinate traffic signals and move freight more efficiently through the region. This could be accomplished through the use of new technology and/or signals to better respond to traffic conditions in the field. DUATS will be further evaluating select corridors as part of the 2040 Long Range Transportation Plan for potential signal coordination improvements. Constructing the MLK/Wood intersection improvements, shown in **Figure 5-11**, would also help improve truck traffic operations when the intersection is blocked by trains.

Figure 5-11. MLK/Wood Intersection Improvements



SOURCE: Chastain and Associates.

NOTE: Refer to Chastain and Associates report for detailed intersection turning movement counts .

Another potential improvement would be the construction of the Southeast Beltway. This project has been discussed for several years and has been identified in past DUATS Long Range Transportation Plans as an alternative that would enhance regional freight movement and support economic development opportunities. The SE Beltway would also provide additional benefits by moving some truck traffic out of the Decatur urbanized area and moving trucks away from some of the major at-grade rail crossings that were previously discussed.

One final improvement is the need to focus on maintaining the existing roadway infrastructure in a state of good repair. The heavy truck traffic throughout the region causes significant damage to area roadways which can create potentially uncomfortable and/or unsafe travel conditions for the public. Significant deterioration of roadway can also require more significant repairs and reconstruction which has the potential to cause detours that create a whole host of possible conflicts and operational issues.

Public Transportation and Non-Motorized Improvements

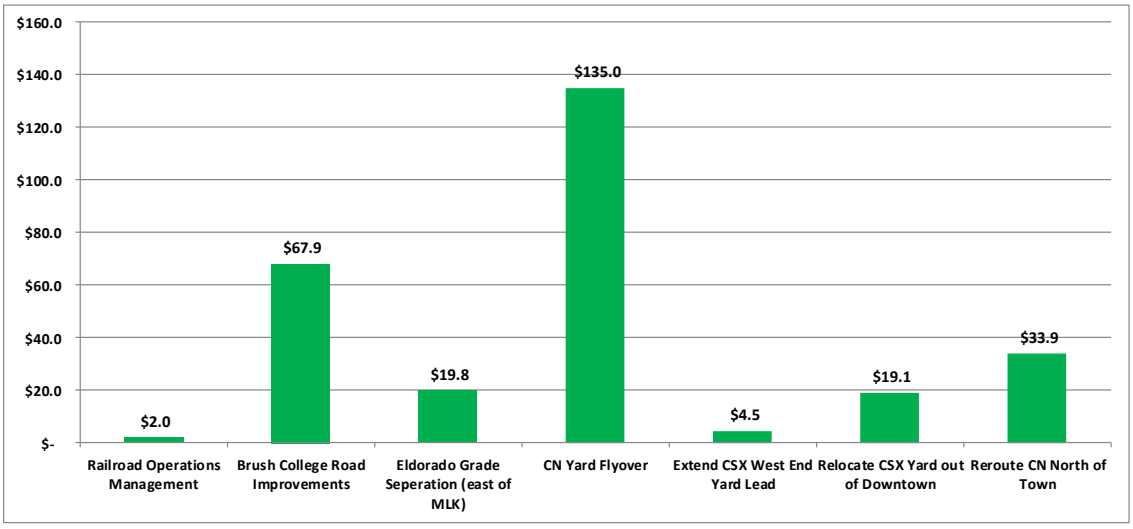
Similar to the truck improvements, the biggest improvement to enhance public transportation and non-motorized travel in the region is to eliminate the major at-grade rail crossings. Addressing the Brush College Road and Eldorado crossings would provide significant benefits to public transportation and non-motorized users.

Another improvement that local officials should consider is prioritizing bus shelter and non-motorized improvements along major truck routes. As described in the *System Performance* chapter, many of the current bus stops are located in close proximity to major roadways with heavy truck traffic. This can create unsafe waiting locations for bus riders and it can also create situations where pedestrians trying to access a bus stop are uncomfortable or have difficulty crossing due to heavy truck volumes.

Project Cost Summary

Figure 5-12 displays a summary of the rail project costs discussed in this chapter. The rail improvements range between $2 million and $135 million. The CN flyover came in at an estimated cost of $135 million and this project was ruled out rather quickly as it was determined the cost and impacts were too high.

Figure 5-12. Cost Estimate of Rail Improvements



Two potential truck improvement projects were also identified. This includes improvements for the MLK/Wood intersection which is currently estimated at approximately $3.5 million. This includes approximately $80,000 in engineering; $40,000 in right-of-way acquisition and the remaining $3.38 million for construction. This project is currently on DUATS illustrative list of projects meaning this improvement currently has no dedicated/secure funding source. The project is listed as using STU and local funds but no application/project priority form has been submitted for use of STU funds.

The SE Beltway is another potential project that would benefit truck traffic within the region. The current cost estimate for the SE Beltway totals $200 million. The project would be divided into two phases. Phase 1 (IL 48/Brush College to US 36) is estimated to cost approximately $120 million. Phase 2 (US 36 to US 51) is estimated to cost approximately $80 million.

6. Priority Improvements

This chapter summarizes the priority improvements to enhance the movement of freight within and through the Decatur area. For the most part, the improvements that offer the most benefits are costly projects for which funding is not readily available. While funding, along with other challenges exist, DUATS and local officials should continue to explore opportunities to implement the short-term solutions and a long-term vision identified in this chapter.

The DATES process addressed growing concerns regarding freight inefficiencies throughout the region. This study quantified what area residents have known for some time – rail traffic is a major source of frequent at-grade rail blockages which results in traffic congestion, travel delays and other impacts. To a lesser extent, truck traffic in the region is also a concern; however, in many cases the truck impacts are intensified by at-grade train blockages which delay the movement of freight and the motoring public. The following summarizes the major findings of DATES:

- **Rail and truck traffic are critical components of the Decatur region…and traffic is likely to increase** – Rail and truck traffic in the Decatur region has been and will continue to be a critical piece of the region's transportation system. The three Class 1 rail lines support area industries, local economy and future economic development opportunities. Along these same lines, truck traffic also supports major industries and smaller businesses within the area. As the area and transportation system has grown over time, the impacts of the rail and truck traffic has become more noticeable to residents, business owners, and local officials. Ultimately, it has been these impacts that led local officials to conduct DATES.

  Over time, the increasing freight inefficiencies have begun to impact a wider range of stakeholders – motorists, public transit riders, bicyclists, pedestrians, and business owners – on a more frequent basis. Even as area stakeholders feel these impacts, they recognize that rail and truck traffic are critical to sustaining the local and regional economy and to a large extent support increased rail and truck traffic if it results in new employment opportunities.

  DATES concluded that while the rail network is generally operating well (given the current conditions), the area is likely to see a steady growth in rail operations. National

trends suggest an increase in train movements and local industries have also shown an increased interest in using rail to move goods through the region. As part of DATES, a future year rail scenario showed a relatively small increase in train activity in Decatur could increase rail blockages by 27% and travel delay by 54%. While these numbers represent one possible future year scenario, it demonstrates the need for the region to continue to work to implement the priority infrastructure improvements to adequately accommodate the needs of all transportation users within the region.

- **There are no easy solutions…and the solutions are costly** – The unique nature of Decatur, three Class 1 railroads and rail yards located in a developed urbanized area, creates significant challenges. At the outset of this study, the project team hoped to identify relatively low-cost, short-term improvements to enhance freight movement through the region. Unfortunately, the majority of the potential solutions did not eliminate the problems, or they simply moved the problem from one location to another. Ultimately, a few short-term solutions that could alleviate the rail and truck issues were identified; however, significant infrastructure investments are needed to meet the DATES goals.

  While the infrastructure improvement costs are significant, the cost of doing nothing is potentially worse. DATES has documented the maneuvers of motorists who cut through neighborhoods, make illegal U-turns, speed to open at-grade crossings, and make other unsafe maneuvers to avoid train blockages and potentially long travel delays. The increasing congestion and travel delays also impact existing area businesses and could potentially hurt future year economic development opportunities if improvements are not made to adequately accommodate future year local and regional freight movements. There is no easy solution and the priority improvements come with significant costs; however, doing nothing could come at even greater costs.

Priority Improvements

As it has been for several decades, rail and truck traffic will continue to be an important component of the Decatur area's economy. The DATES process has explored both short-term and long-term improvements to address the rail and truck concerns within the region. As previously stated, there are no easy solutions and the improvements that offer the most benefit are ones that come with significant costs. The following sections summarize the short-term improvements that look to mitigate the rail and truck impacts while funding for long-term projects is secured. For the most part, the implementation/construction of improvements is likely to occur through the DUATS Long Range Transportation Plan (LRTP) process. The DATES projects should be incorporated into the upcoming DUATS LRTP update and given the significant costs the projects are likely to be included on the illustrative list, indicating that the projects address a transportation need but funding is currently not identified.

Short-Term Solutions

The following summarizes recommended short-term solutions that would support the overall DATES goals. These projects are by no means the complete solution – the situation requires significant investment in both rail and truck infrastructure to increase freight movement efficiency, reduce travel delays, improve quality of life, and support economic development within the region. In the meantime, the following short-term solutions can potentially alleviate some of the issues and also build support for implementation of projects that are part of the long-term vision.

- **Develop a Decatur Area Joint Operating Committee** - form a Decatur Area Joint Operating Committee to solicit railroad input regarding issues facing the region. This process could encourage buy-in among the railroads, local industries, and local officials. The committee could explore joint operating agreements that could potentially make better use of the existing rail network in the Decatur area. The committee could also explore time of day operations, including moving some movements to the night when there is less impact to the traveling public. While no specific money is identified, a cost of $2 million is assumed as it is anticipated that some planning and operations analysis would be needed.

- **Make more efficient use of the current transportation system** – Communities across the country have to do more with less, and the Decatur area is no exception. It is likely to be several years before some of the long-term improvements will receive funding and be constructed. In the meantime, the Decatur area should make more efficient use of the current transportation, in particular along major freight corridors. This short-term approach would look to enhance, or upgrade, traffic signals, intersection geometrics, and signal coordination to more efficiently move freight and the motoring public through major corridors. As part of the DUATS 2040 LRTP update, the plan will further explore specific corridors for further analysis.

- **Construct the MLK/Wood intersection improvement** – The MLK/ Wood intersection is now part of the 6W truck route that diverts truck traffic away from the Decatur CBD. This intersection is also a frequent source of train blockages that causes traffic delays to trucks, motoring public, and public transit buses. The City of Decatur has identified an intersection improvement that would allow the traffic along the 6W truck route to continue to operate during a train blockage. While improvement does not eliminate all of the travel delays associated with the blockage, it does reduce delays for trucks traveling through the Decatur area.

  The current cost estimate for the MLK/Wood intersection improvements is $3.5 million. This includes approximately $80,000 in engineering; $40,000 in right-of-way acquisition and the remaining $3.38 million for construction. This project is currently on DUATS illustrative list of projects meaning this improvement currently has no dedicated/secure funding source. The project is listed as using Surface Transportation Program – Urban

(STU) and local funds but no application/project priority form has been submitted for use of STU.

- **Explore improvements to the existing Prairie Avenue underpass** – The Prairie Avenue underpass is a frequently used alternative route to avoid train blockages at the Eldorado and MLK/Wood crossings. While it may not be ideal to divert traffic off of US 36 to this underpass, it is nonetheless used by area residents to avoid frequent blockages at these rail crossings. Prairie Avenue is also used by DPTS to avoid potentially long delays to area transit riders as buses will divert to the Prairie Avenue underpass when the Eldorado and/or MLK/Wood intersections are blocked. Prohibiting the use of Prairie Avenue as an alternative route would be difficult to enforce and would likely make the rail crossing delays even worse. Given this situation, local officials could explore potential improvements to the Prairie Avenue underpass and along the unofficial bypass route that motorists use to avoid the train blockages. The improvements would focus on enhancing accommodations for all users and should include non-motorized improvements, enhanced bus accommodations, and potential geometric improvements to provide for a safe alternative route.

- **Prioritize the maintenance of existing roadways** – DATES has identified many potential solutions that focus on the construction of new projects. While it is easy to look forward to constructing these projects, it is also critical to maintain the existing infrastructure in a state of good repair. As such, local officials should continue to prioritize the maintenance of existing roadways, and in particular major truck routes serving the Decatur area.

Long-Term Vision

The DATES process identified the need to construct significant infrastructure improvements to address the regional freight issues and ultimately address the DATES goals. The short-term solutions by themselves do not address the long-term freight needs of the region. The following long-term projects have been identified as the top priorities for the region. Identifying funding for, and ultimately constructing, these projects will require on-going support of local officials and politicians.

The DATES process identified two key at-grade rail crossings requiring improvements – Brush College Road near Faries Parkway and Eldorado just east of MLK. Both corridors are critical to the movement of freight through the region and addressing these crossings are top priorities of local officials. The DATES rail model shows that grade separating these two crossings would eliminate over 330 current train blockages and 32 hours of delay per week. Over the course of a year, this equates to eliminating 1,664 hours of delay, or the equivalent of the crossing being blocked a total of 69 days per year. Furthermore, as documented in this study, the traffic delays associated with the train blockages extend beyond the time the train clears the crossing so in fact the reduction in overall travel delay would be significantly greater than the 1,664 hours.

The decision to grade separate a highway-rail crossing is a significant investment that impacts highway and railroad users. Among the benefits are:

- Eliminating train/vehicle collisions (including the resultant property damage and medical costs and liability).
- Savings in highway-rail grade crossing surface and crossing signal installation and maintenance costs.
- Cost savings associated with reducing driver delay.
- Costs savings associated with providing increased highway storage capacity (to accommodate traffic backed up by a train).
- Costs savings associated with reducing fuel and pollution (from idling vehicles).
- Eliminating the effects of any "spillover" congestion on the rest of the roadway system.
- Improved emergency access and response time.
- Reducing the possibility of train derailment costs.

The following summarizes projects that would support the long-term vision for improving the region's freight movements.

- **Construct the Brush College Road Corridor Improvements**
  DATES, along with the currently on-going Brush College Road corridor study, has documented numerous deficiencies along Brush College Road between William Street and Faries Parkway. The Brush College Road NS rail crossing was shown to have the highest number of blockages (198) per week resulting in 17.2 hours of delay per week. The future year rail scenario indicates this crossing could increase to 234 crossings in the future and 24.3 hours of delay per week. Under this scenario, the Brush College Road NS crossing would be blocked the equivalent of one full day per week.

  Unlike other corridors in the region, when this crossing is blocked there are no viable alternative routes to avoid the delays. Some motorists attempt dangerous maneuvers including racing trains to beat the crossing, U-turns, or driving the wrong direction in the oncoming travel lane to try to get to a side street in search of an escape route.

  Public transit riders are also frequently impacted by the Brush College Road NS crossing. A data collection effort completed by the DPTS showed that over an approximately two-month time period in 2011, that of the 364 total buses stopped by at-grade rail crossings in the region, the Brush College NS crossing accounted for 100 blockages, or 28%. The 100 blockages resulted in a total 11.7 hours of delay to transit riders which represented 35% of the total transit-train delays in the region. The train blockages at this crossing impacted nearly 500 riders some of which missed connections due to long travel delays. Given these conditions, it is very difficult for the DPTS to sustain and grow ridership if they cannot reliably meet their schedule.

The current cost estimate for the Brush College Road corridor is estimated at approximately $67.9 million. This figure is still being refined as part of the Brush College Road corridor study and could change slightly.

- **Grade Separate the Eldorado Street Rail Crossing**

  Eldorado (US 36) is a major east-west truck route through Decatur with traffic volumes approaching 30,000 vehicles per day. The current train blockages and delay at this crossing, just east of MLK, is the second highest in the region accounting for 129 train blockages and 15.1 hours of delay per week. The future year scenario shows the potential for this crossing to increase to 147 blockages accounting for 18.3 hours of delay per week. Unlike the Brush College Road corridor, the Eldorado crossing does have an alternative route along Prairie Avenue that can be used to avoid long delays (this is an unofficial alternative route frequently used by local residents. The DPTS also uses this route to avoid train blockages and long delays.).

  The DPTS data collection effort showed that during an approximately two month period in 2011, the Eldorado crossing was blocked 315 times which caused 67 buses (21.3%) to be stopped resulting in 4.5 hours of delay. These stopped buses impacted nearly 500 passengers and caused at least one bus to miss a connection. The other 248 buses were able to deviate to the Prairie Avenue underpass to avoid potentially long travel delays. In total, the 248 buses that deviated carried close to 1,700 passengers. Over the course of two months, the DPTS data showed that system wide a total of 4,300 passengers were impacted by train blockages. Nearly half (2,132) of these transit riders were impacted by the Eldorado crossing. While the DPTS is able to avoid potentially long delays at this crossing, the route deviation still adds time and additional mileage which ultimately impacts the overall transit operating expenses.

  The cost estimate to construct a grade separation at this crossing is currently $19.8 million.

- **Construct the Southeast Beltway**

  Enhancing connectivity and mobility in the southeast portion of the study area would benefit the movement of freight through the Decatur area. The construction of this project would also support economic development activity in the east and south portions of the region. The current cost estimate for the Southeast Beltway totals $200 million. The project would be divided into two phases. Phase 1 (IL 48/Brush College to US 36) is estimated to cost approximately $120 million. Phase 2 (US 36 to US 51) is estimated to cost approximately $80 million.

- **Future Year Passenger Rail Service**

  One of the objectives of DATES was to consider the potential impacts that freight rail traffic might have on the future of passenger rail service in the Decatur area. While there is some general local support for passenger rail, as seen in the mobility survey, at

this time there is nothing in IDOT's short-term, or long-term, plans that include passenger rail service to Decatur. Should the area decide to aggressively pursue passenger rail service, the first step in the process would be to conduct a feasibility study which would require substantial local political support. Ultimately, the rail network exists for developing passenger rail service to Decatur but in the immediate future there are no plans to pursue this service.