

MoveRolla

TRANSPORTATION STRATEGY



October 2015

MoveRolla

TRANSPORTATION STRATEGY

ACKNOWLEDGEMENTS

A. Core Team

City of Rolla

John Butz, City Administrator

Steve Hargis, Director of Public Works

Darin Pryor, Engineer

Phelps County Regional Medical Center

John Denbo, Chief Executive Officer

Ed Clayton, Chief Financial Officer

Bill Leaders, Director of Facilities & Construction Services

Missouri University of Science & Technology (Missouri S&T)

Walter Branson, Vice Chancellor - Finance & Administration

Ted Ruth, Director of Design & Construction Management

UTW Rolla Development, LLC

Alan Bornstein, Partner

Jeffrey Otto, Counsel

Missouri Department of Transportation (MoDOT)

Preston Kramer, Area Engineer - Central District

HNTB Corporation

Kip Strauss, Project Manager

Brian Comer, Deputy Project Manager

Andy Potthast, Senior Engineer

Archer-Elgin Engineers

Jeff Medows, President

B. Stakeholder Team

Study area property owners, business owners, public officials, residents and interested citizens.

C. Public

Two open houses were held during the project to solicit input and feedback.

MoveRolla

TRANSPORTATION STRATEGY

TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	1
I. INTRODUCTION.....	3
II. PROCESS.....	5
III. EXISTING CONDITIONS.....	8
IV. MULTIMODAL NETWORK IMPROVEMENTS.....	13
V. ANALYSIS.....	17
VI. RECOMMENDED MULTIMODAL NETWORK IMPROVEMENTS.....	23
VII. IMPLEMENTATION.....	30

APPENDIX

A.1 MAY 6, 2015 PRESENTATION	
A.2 AUGUST 20, 2015 PRESENTATION	
A.3 SEPTEMBER 14, 2015 OPEN HOUSE BOARD AND FACT SHEET	
A.4 SEPTEMBER 14, 2015 OPEN HOUSE COMMENTS	
A.5 ASSUMED TRAFFIC ANALYSIS IMPROVEMENTS	

LIST OF FIGURES

Figure 1: Study Area.....	4
Figure 2: Study Process.....	6
Figure 3: Existing Level of Service.....	9
Figure 4: Initial Primary Improvements.....	14
Figure 5: Initial Secondary Improvements.....	16
Figure 6: Potential Bishop Avenue Complete Street Configurations.....	24
Figure 7: Recommended Multimodal Improvements.....	28
Figure 8: Recommended Alternative Public Priority Voting.....	29

LIST OF TABLES

Table 1: Intersection Performance Thresholds.....	17
Table 2: AM Peak Hour Traffic Level of Service.....	18
Table 3: PM Peak Hour Traffic Level of Service.....	19
Table 4: Study Goal Evaluation.....	20
Table 5: Initial Project Conceptual Costs.....	22
Table 6: Recommended Prioritized Transportation Improvements.....	32
Table A.4.1: Preliminary Recommended Improvements Signals Option	
Table A.4.2: Preliminary Recommended Improvements Roundabout Option	

MoveRolla

TRANSPORTATION STRATEGY

Vision

Develop a transportation system that meets the needs of all people and modes and promotes a safe, healthy community and economic opportunities for the next 20 years.

Goals

- Develop a safe and convenient transportation environment.
- Promote alternative mobility choices.
- Develop a multimodal transportation system that promotes economic opportunities.
- Create a sense of place.

Process

- MoveRolla was developed through a multi-step planning process that included a technical analysis of existing and future conditions and input from the core team, stakeholders and the public.
- Based on this process, a preferred multimodal network, conceptual costs, project phasing and key implementation steps were developed.

EXECUTIVE SUMMARY

The *MoveRolla Transportation Strategy* (MoveRolla) provides a preferred multimodal transportation network for Rolla's central core and the Westside Marketplace. The purpose of the strategy is to improve mobility and safety for all modes, connect major activity centers, maximize economic development opportunities, and provide aesthetic improvements to enhance Rolla's unique identity and sense of place.

Analysis

MoveRolla was developed through a technical analysis of existing and future conditions, review of study area plans including the Missouri University of Science and Technology (Missouri S&T) *Campus Master Plan*, the *Westside Marketplace Development Plan*, *Rolla West Master Plan*, and the *Phelps County Regional Medical Center Master Plan*. Input was also gathered from the project core team, stakeholders and the public.

Mobility

- The heaviest vehicle demand along Bishop Avenue occurs at the 10th Street, Kingshighway, and Highway 72 intersections.
- The heaviest pedestrian demand along Bishop Avenue is at 10th Street.
- 12 percent of through traffic on Bishop Avenue is truck traffic.

Safety

- Bishop Avenue represents 66 percent of total arterial crashes in the study area.
- The crash rate on Bishop Avenue is 2.7 times the statewide average.
- Bishop Avenue represents 50 percent of the total pedestrian crashes in the study area.

Growth

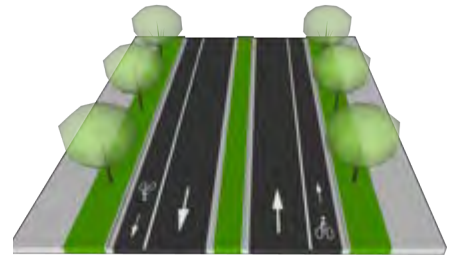
- Missouri S&T is experiencing significant growth in enrollment.
- The Phelps County Regional Medical Center is undergoing a significant expansion including the construction of the new Delbert Day Cancer Institute.
- The Westside Marketplace will bring regional retail to Rolla West.

MoveRolla

TRANSPORTATION STRATEGY

Key Recommendations

- Conversion of US-63 (Bishop Avenue) to a Complete Street. The Bishop Avenue Complete Street will reduce traffic speeds, provide a safe bicycle and pedestrian environment and visually enhance what many consider Rolla's main street.
- Prior to the implementation of the Bishop Avenue Complete Street, the Highway 72 Extension will be constructed to serve Rolla through traffic providing congestion relief for Bishop Avenue and Kingshighway. These projects would include close coordination between the City and the Missouri Department of Transportation (MoDOT).
- Other key improvements include a new I-44 frontage road and 10th Street overpass connecting to the Westside Marketplace.
- These multimodal transportation network improvements will connect major activity centers including the downtown Rolla business district, Missouri S&T, Phelps County Regional Medical Center, and the Westside Marketplace.
- The future fifth I-44 interchange, shown below, remains a long-term planned improvement.

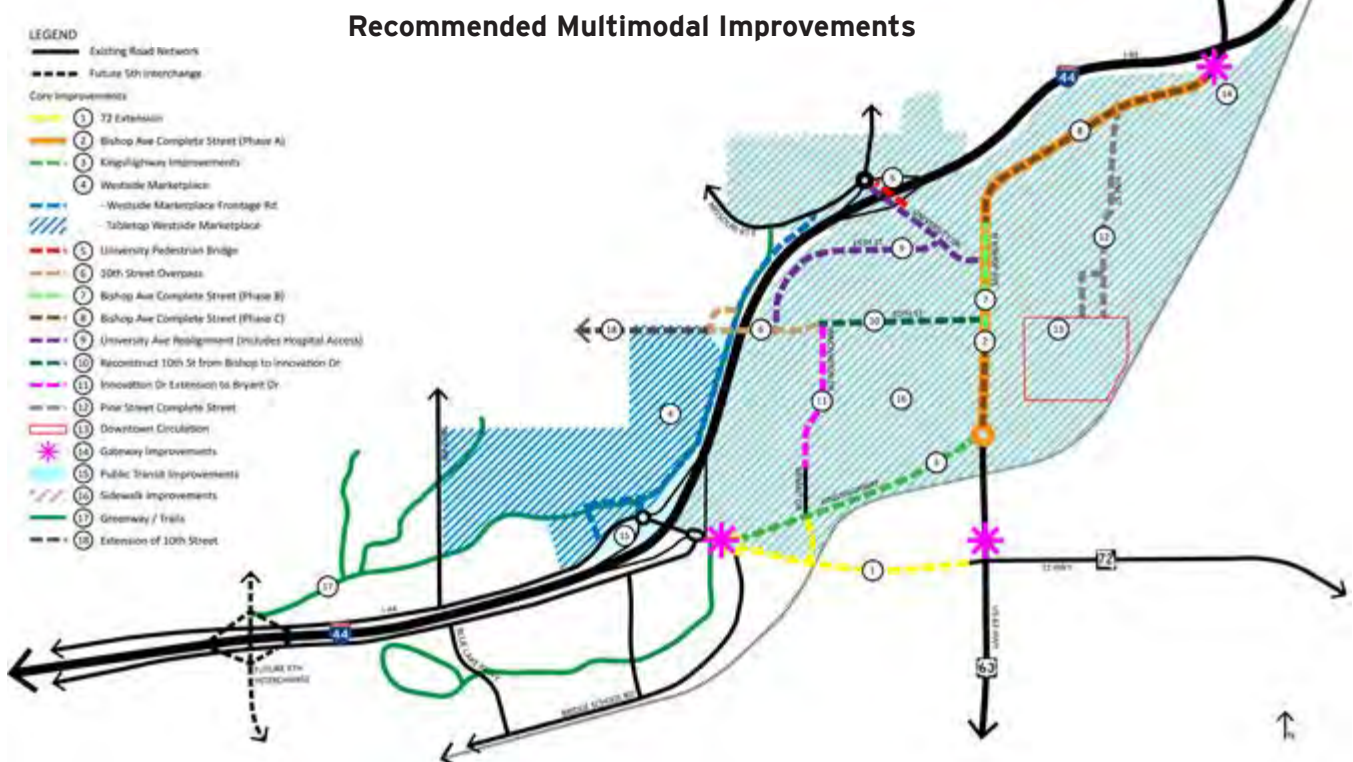


Bishop Avenue Complete Street improvements could include the reduction of one travel lane. The lane could be repurposed for wider sidewalks, a dedicated bike lane and landscape treatments as shown above.

Next Steps

- Establish preferred funding package
- Design multimodal network improvements

The full list of improvements are described in detail on pages 23-27.



MoveRolla

TRANSPORTATION STRATEGY

I. INTRODUCTION

The *MoveRolla Transportation Strategy* (*MoveRolla*) provides a framework for the implementation of a multimodal transportation network for Rolla's central core and west Rolla bordered by Sally Road on the west, Kingshighway on the south, I-44 on the east and 10th Street on the north. This area is currently being developed as Westside Marketplace. The purpose of the strategy is to:

- improve mobility and safety for all modes;
- connect major activity centers;
- maximize economic development opportunities; and
- provide aesthetic improvements to enhance Rolla's unique identity and sense of place.



Downtown Rolla



Missouri S&T Campus



Phelps County Regional Medical Center

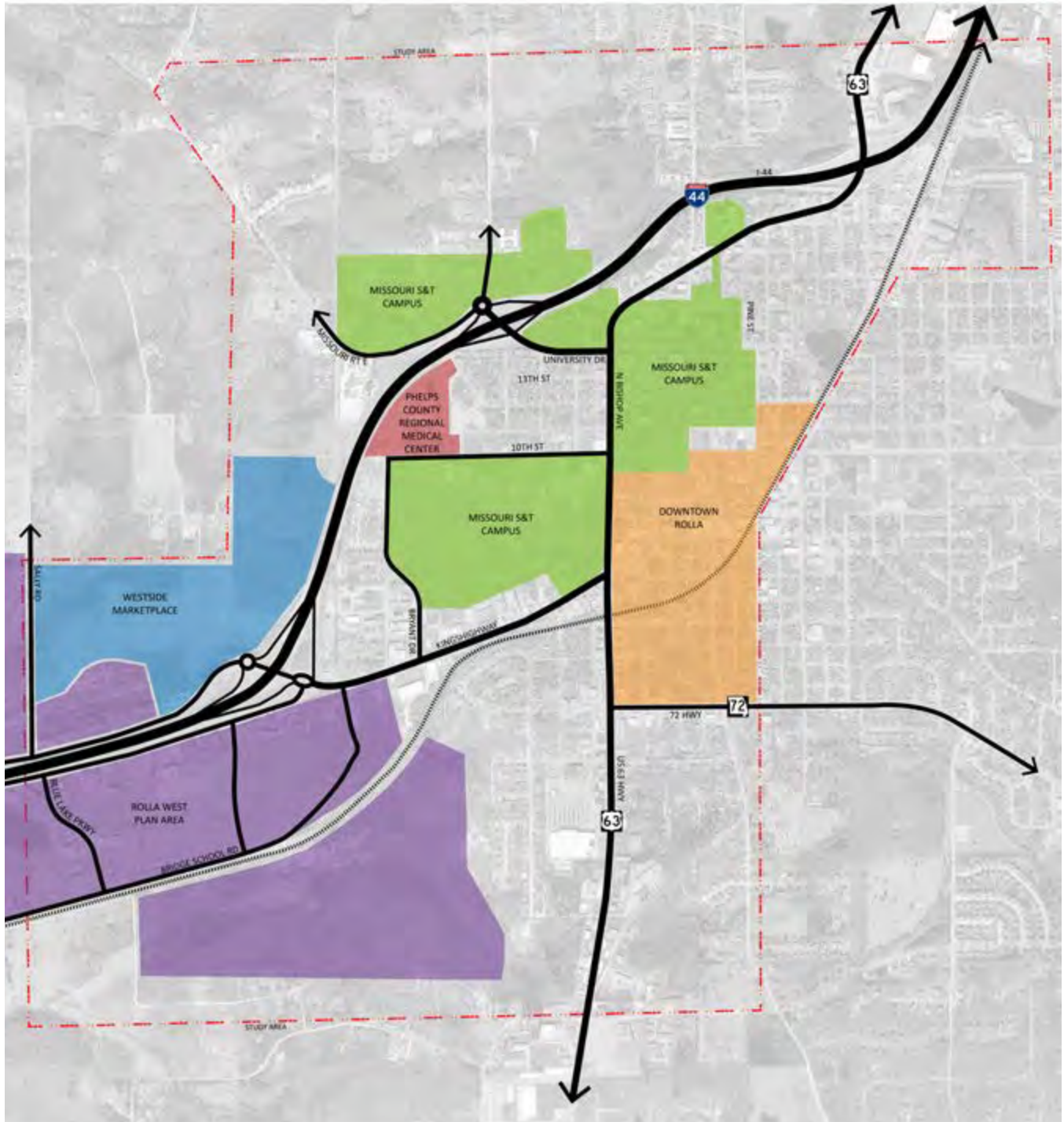
MoveRolla was developed through a multi-step planning process. The process developed the preferred multimodal network improvements, conceptual costs, project phasing and a funding strategy based on a technical analysis of existing and future conditions and input from the project core team, stakeholders and public.

Study Area

The study area is shown as the dashed red line in **Figure 1**. The study area includes most of Rolla's major activity centers and traffic generators including the downtown business district, the Missouri University of Science and Technology (Missouri S&T) (Missouri S&T) Campus, the Phelps County Regional Medical Center, and the future Westside Marketplace. Currently, Missouri S&T is experiencing significant growth with a 2015 enrollment of 8,000 students and has identified a number of major capital improvements in 2014 *Missouri S&T Campus Master Plan*. This includes a new residential hall. The Phelps County Regional Medical Center is currently in the process of a significant expansion with the construction of the 70,000 square foot Delbert Day Cancer Institute. The future Westside Marketplace will be home to a new regional shopping center west of I-44 that could potentially support 450,000 square feet of retail. This new growth will require significant improvements to the existing transportation network.

MoveRolla
TRANSPORTATION STRATEGY

Figure 1: Study Area



MoveRolla

TRANSPORTATION STRATEGY

II. PROCESS



Core team meeting, September 14, 2015

Planning is a process by which a community assesses what it is and what it wants to become, then decides how to make it happen. In order to be successful, a Plan must address the community's primary functioning issues. Therefore, stakeholder and public participation is essential. The Plan's final recommendations are a result of an inclusive process that identified and addressed the City's transportation needs. The *MoveRolla* process included a project core team, stakeholders and public open houses.

As shown in **Figure 2** on the following page, project initiation began in April, 2015. Core team, stakeholder and public open houses were held throughout the planning process.



First public open house, May 6, 2015

Core Team

The core team was comprised of City officials and representatives from the Missouri Department of Transportation (MoDOT), Phelps County Regional Medical Center, Missouri S&T, and the proposed Westside Marketplace development. The core team provided direction to the consultant team throughout the project. Two core team meetings were held during the planning process (May 6, 2015 and August 20, 2015).

Stakeholders

Stakeholders included study area property owners, business owners, public officials, residents and interested citizens. There were approximately 45 stakeholders who participated in the process. The stakeholders provided local insight with regard to study area needs and issues and served as a sounding board for potential ideas and solutions. Two stakeholder meetings were held during the planning process (May 6, 2015 and August 20, 2015).



Second public open house, September 14, 2015

Public Open Houses

Two open houses were held during the project to solicit input and feedback from the general public (May 6, 2015 & September 14, 2015). There were approximately 44 attendees at the first public open house and 48 attendees at the second open house.

MoveRolla

TRANSPORTATION STRATEGY

Plan Vision and Goals

The project vision and goals were developed by the Core Team, refined by stakeholders and reviewed by the public. From the onset of the process, all groups identified the need for a transportation system that addressed the needs of all users including residents, visitors and students.

Vision

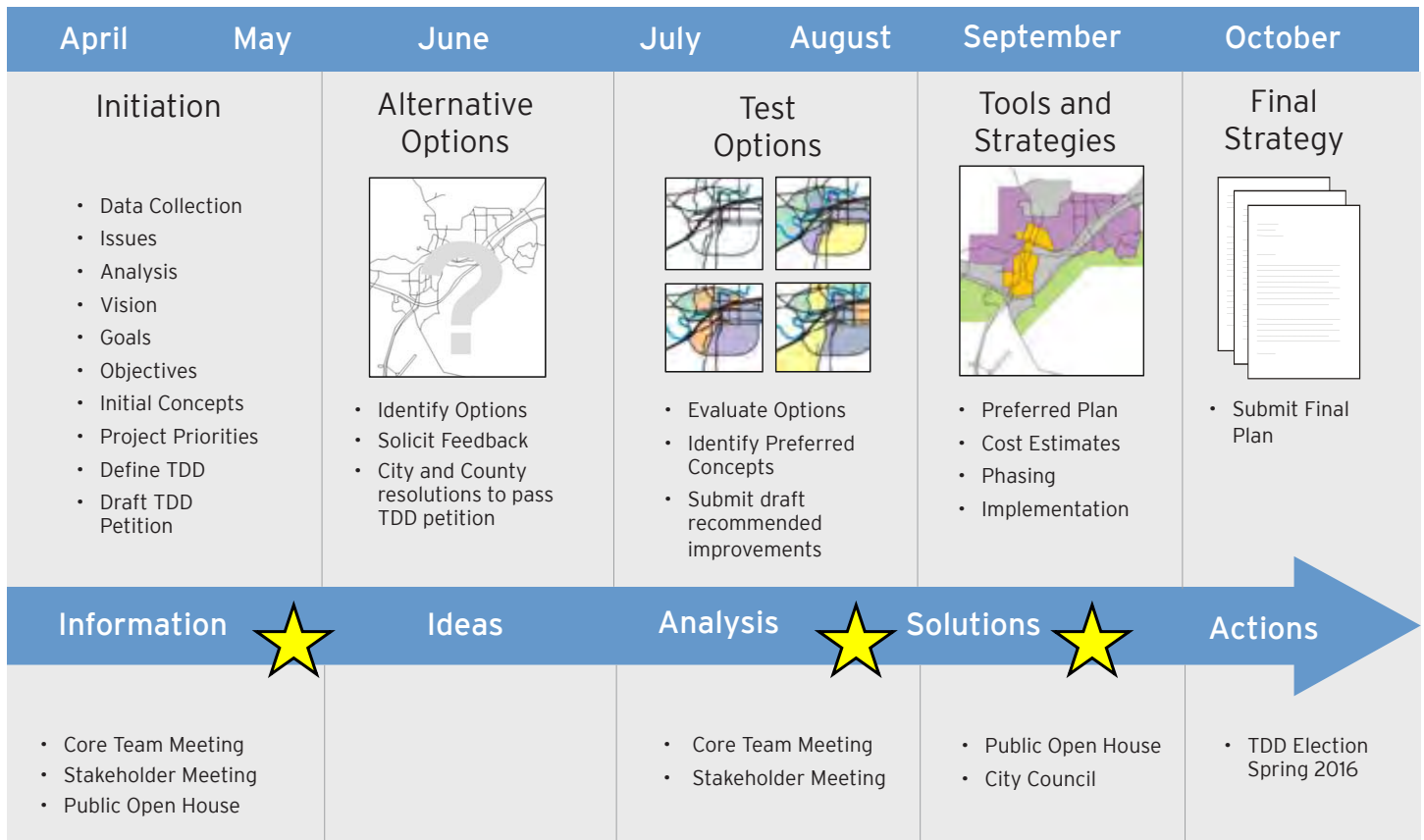
Develop a transportation system that meets the needs of all people and modes and promotes a safe, healthy community and economic opportunities for the next twenty years.

This vision includes residents, students, and business community members alike, who all seek the benefits of improved transportation access and innovative transportation solutions within the community.

MoveRolla Goals

- Develop a safe and convenient transportation environment.
- Promote alternative mobility choices.
- Develop a transportation system that promotes economic opportunities.
- Create a sense of place.

Figure 2: Study Process



MoveRolla

TRANSPORTATION STRATEGY

Approach

Safe and convenient connections to Westside Marketplace, the hospital, university and downtown district are key objectives the *MoveRolla*. The project began with data collection of existing GIS information provided from the 2008 *Rolla West Master Plan* and from the City and University where available, including:

- Existing right-of-way
- Historic traffic/bike/pedestrian data
- Speed limits
- Previously completed traffic analyses
- Accident data
- Topography
- Development proposals
- Planned infrastructure projects
- Transportation network users
- Right-of-way occupants
- Comprehensive Plan
- Local area plans
- Existing land uses
- Existing zoning

A number of previous studies have been completed within the study area. A review of these studies ensured compatibility of project objectives and provided a baseline for the traffic analysis. Some of these studies include: the *Rolla West Master Plan*, the *Missouri S&T Campus Master Plan* and the *Hospital Master Plan*.

An initial traffic analysis was developed to assess existing and future traffic demand. Future demand was based the proposed Westside Marketplace, projected Missouri S&T growth, the Phelps County Medical Center expansion and City of Rolla growth trends. From this, the project team analyzed existing and future no-build conditions. An initial set of multimodal network alternatives were developed and refined based on the analysis, initial conceptual costs and feedback from the core team and stakeholders.

Based on this traffic analysis, evaluation of conceptual costs, and input from the core team and stakeholders, the project team developed refined multimodal network improvements. These refined improvements were presented to the public for their input which included potential phasing and prioritization.



Rolla West Master Plan



Westside Marketplace
Regional Transportation Plan



Missouri S&T Campus Master Plan

MoveRolla

TRANSPORTATION STRATEGY

III. EXISTING CONDITIONS

In order to assess existing conditions and develop a baseline, data was collected from the Core team. The key issues analyzed were mobility, safety, and other issues such as economic development, land use, and other relevant studies.

Mobility

2014 traffic data informed mobility conditions within the study area based upon:

- Demand
- Level of service (LOS)
- US-63 (Bishop Avenue) Origins and Destinations (Through Traffic)
- Bicycle and Pedestrian considerations
- Transit

Demand

The existing traffic demand analysis found the heaviest vehicle demand within the study area. The average daily traffic (ADT) is 20,600 on US-63 (Bishop Avenue) north of Kingshighway. The ADT is 17,500 on Kingshighway west of US-63 (Bishop Avenue). The heaviest pedestrian demand along US-63 is at 10th Street. Truck traffic throughout the corridor is approximately 12 percent of the total traffic volume.

Level of Service

Initial level of service was analyzed at a high level. **Figure 3** on the following page shows that existing peak hour level of service problems exist along Kingshighway and US-63 today.

Existing level of service at four intersections within the study area are at an undesirable capacity (E or F) in AM or PM peak periods. These are:

- North Walnut Street and I-44 NB ramps,
- US-63 (Bishop Avenue) and Kingshighway,
- US-63 (Bishop Avenue) and Vichy,
- US-63 (Bishop Avenue) and Pine Street

The remaining intersections within the study currently operate at a desirable LOS (A-D).



Rolla Pedestrian and Bicycle Plan

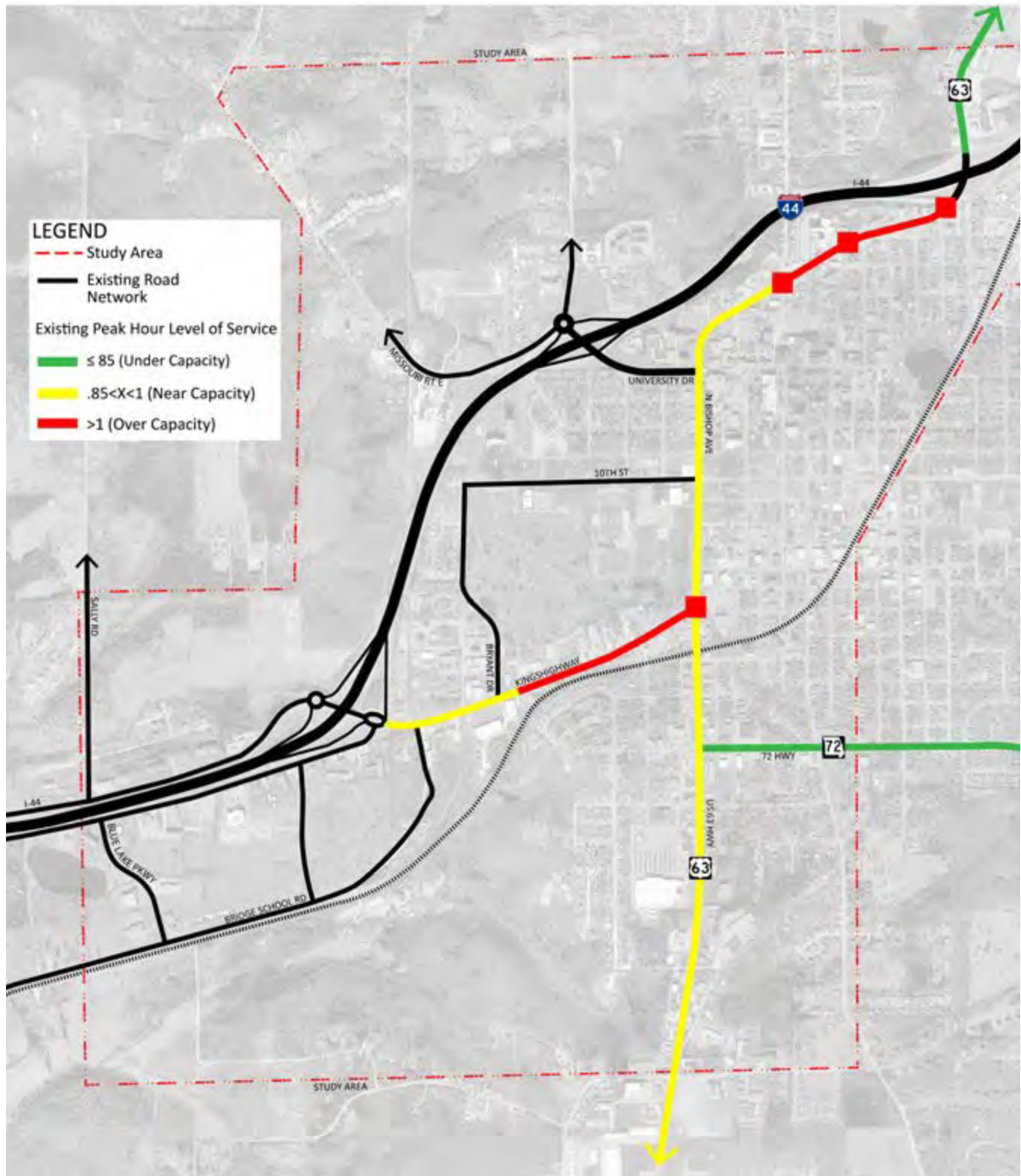


MoDOT 2013 Traffic County Map

MoveRolla

TRANSPORTATION STRATEGY

Figure 3: Existing Peak Hour Level of Service



MoveRolla

TRANSPORTATION STRATEGY

US-63 (Bishop Avenue) Origins and Destinations (Through Traffic)

INRIX® collected origin and destination data of motorists that use US-63 (Bishop Avenue) between I-44 and Kingshighway and started their trip and ended their trip outside of the study area. These were considered “through trips”. Sample data was collected by tracking phones. This sample data was then extrapolated up to the total traffic demand in the corridor and travel patterns were identified. US-63 (Bishop Avenue) existing 2015 origin and destination results indicated that along:

- Northbound
 - AM - 345 through trips
 - PM - 693 through trips
- Southbound
 - AM - 473 through trips
 - PM - 481 through trips



US-63 (Bishop Avenue)
Origin and Destination Through Traffic Example

MoveRolla

TRANSPORTATION STRATEGY

Living in Rolla



The Walk Score for the City of Rolla is 36. This score indicates that Rolla is a car-dependent with most errands requiring a car.

Bicycle and Pedestrian

Walk Score (www.walkscore.com) measures the walkability of any address using a patented system. For each address, Walk Score analyzes hundreds of walking routes to nearby amenities. Points are awarded based on the distance to amenities in each category. Amenities within a 5 minute walk (.25 miles) are given maximum points. Fewer points are provided to more distant amenities, with no points given after a 30 minute walk.

Walk Score also measures pedestrian friendliness by analyzing population density and road metrics such as block length and intersection density. Data sources include Google, Education.com, Open Street Map, the U.S. Census, Localeze, and places added by the Walk Score user community. Based on this analysis, Walk Score provides a score ranging from 0 to 100. A description of this range is provided below:

- 90-100: Walker's Paradise, Daily errands do not require a car
- 70-89: Very Walkable, Most errands can be accomplished on foot.
- 50-69: Somewhat Walkable, Some errands can be accomplished on foot.
- 25-49: Car-Dependent, Most errands require a car.
- 0-24: Car-Dependent, Almost all errands require a car.

As of August 2015, the City of Rolla Walk Score is 36. This score indicates that Rolla is a car-dependent with most errands requiring a car. A Walk Score goal of 70-89 would be appropriate for a community like Rolla with a University and vibrant downtown.



Missouri S&T E-bus.

Transit

Missouri S&T currently operates an E-bus (electric bus) through a grant. The bus circulates between the university campus and campus housing on the west side of I-44 around University Drive. The transit service has limited service span with routes serving the Missouri S&T campus.

MoveRolla

TRANSPORTATION STRATEGY

Safety

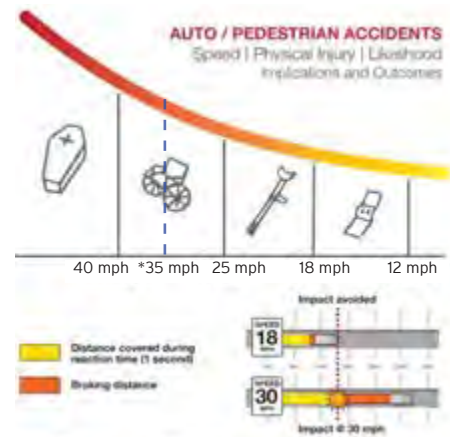
An existing safety conditions analysis found US-63 (Bishop Avenue) to represent 66 percent of total arterial vehicle crashes within the study area, with approximately 77 annual crashes along Bishop Avenue (2009-2013 data). On average, a vehicle crash occurs every five days along US-63 (Bishop Avenue); the resulting crash rate is 2.7 times above the MoDOT statewide average for a similar facility.

US-63 (Bishop Avenue) represents 50 percent of total pedestrian crashes. The majority of the pedestrian crashes occurred between University Drive and Kingshighway (2002 - 2013 data). Studies found disabling injury crashes occur between 25 and 40 miles per hour (mph), and death related incidents occur at speeds greater than 40 mph. The current US-63 (Bishop Avenue) speed limit is 35 mph.

Other Issues

Until recently the City has had stable growth. However, there has been a recent resurgence in the community. The University is seeing a record number of students, the hospital is building a new Cancer Center and the Westside Marketplace proposed development on the west side of I-44 could be a significant catalyst for additional economic growth.

Land use in the study area is mixed which makes for ideal multimodal conditions. The University plays a large role in mixed land use of university activities and residential within the study area. In addition, the Rolla downtown provides significant retail and office land uses. The remainder of the study area contains hospital, office, park, and residential.



Adapted from a graphic by Complete Mobility
*Current posted speed on Bishop Avenue

Other important existing issues were identified by either the core team, stakeholders or public were:

- Bishop Avenue is “Main Street” and provides a first impression of the community
- I-44 serves as a physical barrier
- The speed and volume of vehicular traffic on US-63 (Bishop Avenue) through town provides a “barrier”
- Safety along US-63 (Bishop Avenue) - motorists and pedestrians is a problem
- Heavy volumes at Kingshighway, US-63 (Bishop Avenue) and Highway 72
- Heavy volumes and access problems along Kingshighway
- Limited Rolla West transportation infrastructure.

MoveRolla

TRANSPORTATION STRATEGY



Kingshighway is a highly congested corridor.



10th Street current dead ends just west of the Phelps County Regional Medical Center.

IV. MULTIMODAL NETWORK IMPROVEMENTS

Based on the existing baseline condition as well as planned and committed projects in the study area, initial multimodal network improvements were identified with the core team, stakeholders and the public on May 6, 2015. These projects were used to evaluate future mobility, safety and develop preliminary costs. The improvements were divided into “primary” and “secondary” based on issues and needs identified by the core team. A full description of these projects is included in the Recommended Multimodal Network Improvements on page 23.

Initial Primary Improvements:

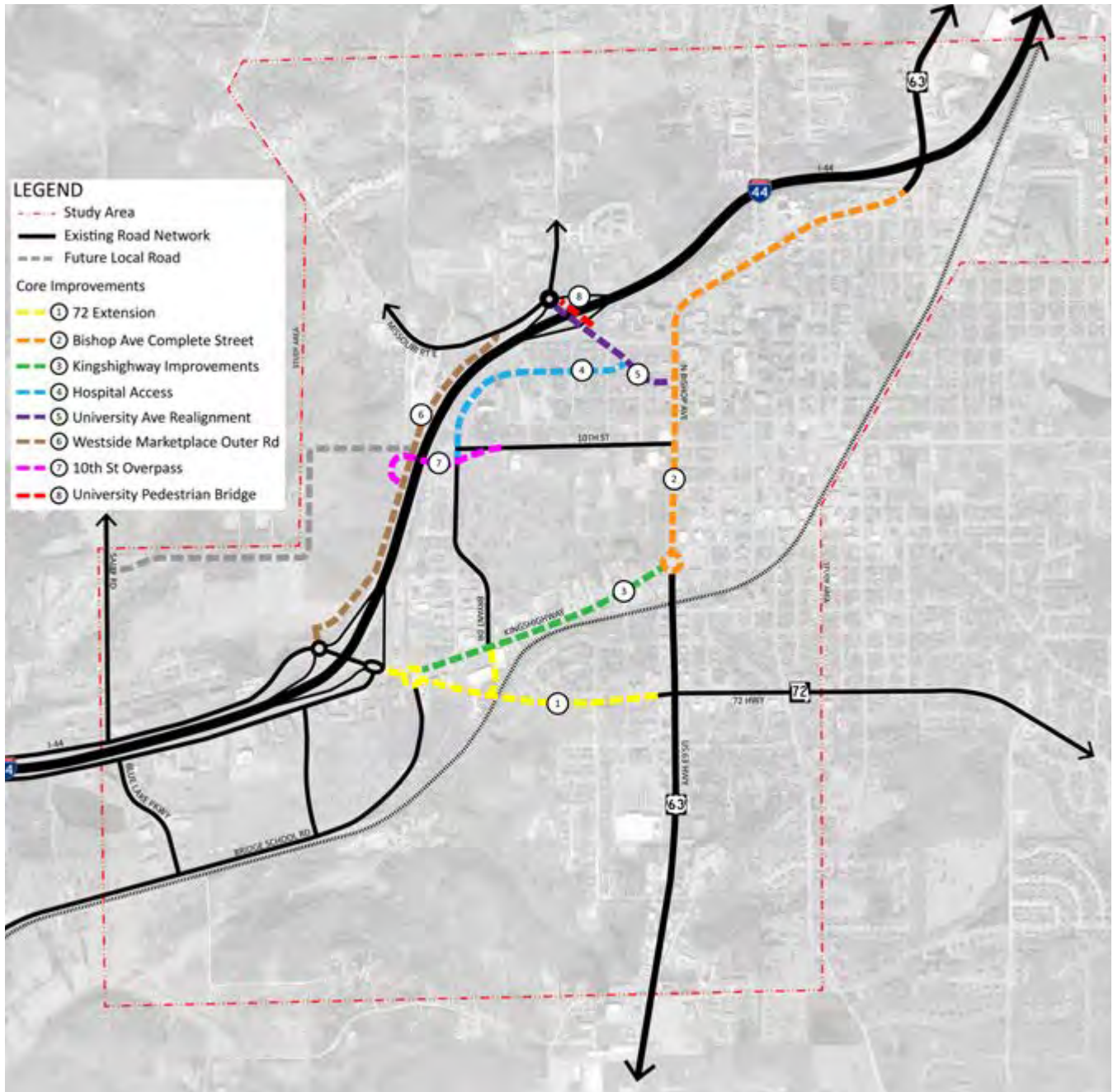
The primary improvements are defined as projects that could potentially be funded and implemented in the near to mid-term time frame.

1. Highway 72 Extension: Extends the 4-lane Highway 72/ Ridgeview Road west tying into the I-44/Kingshighway interchange.
2. Bishop Avenue Complete Street: This project is the transformation of Bishop Avenue from a US Highway to a complete street from I-44 south to Kingshighway.
3. Kingshighway Widening: Improve Kingshighway to a 3-lane roadway with left turn lanes from I-44 to US-63 (Bishop Avenue).
4. Hospital Access: New 2-lane road to the Phelps County Regional Medical Center and the new Delbert Day Cancer Institute along 13th Street that will tie into Pool Street providing access to University Drive/Missouri E.
5. University Drive Realignment: Realignment of University Drive that will provide a new direct connection to Minor Circle Drive which serves as the campus front door. The new entrance to campus will be defined with new signage and landscaping that will clearly identify the access to campus and to student services.
6. Westside Marketplace Outer Road: New 2-lane outer road connecting Missouri E/University Drive to the Westside Marketplace and the I-44/Kingshighway Interchange.

MoveRolla

TRANSPORTATION STRATEGY

Figure 4: Initial Primary Improvements

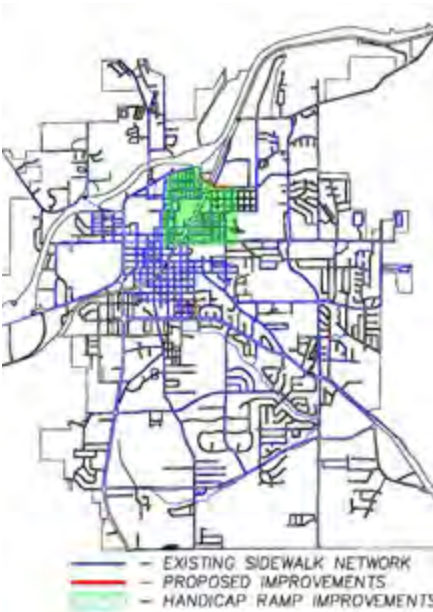


MoveRolla

TRANSPORTATION STRATEGY



The existing bicycle/pedestrian crossing at Missouri E is only wide enough to accommodate one bicycle or pedestrian.



Current funding for sidewalk improvements are limited.

7. 10th Street Overpass: New 2-lane overpass which will provide a direct connection to the Westside Marketplace. The overpass will flyover I-44 and connect to the Westside Marketplace Outer Road.
8. University Drive/Missouri E Pedestrian Overpass of I-44: New dedicated bicycle/pedestrian overpass with 10-foot bike/hike path located just east of the I-44/Missouri E interchange Bridge. The bridge will span I-44 and connect the sidewalk on University Drive to White Columns Drive north of the interchange connecting University housing.

Initial Secondary Improvements:

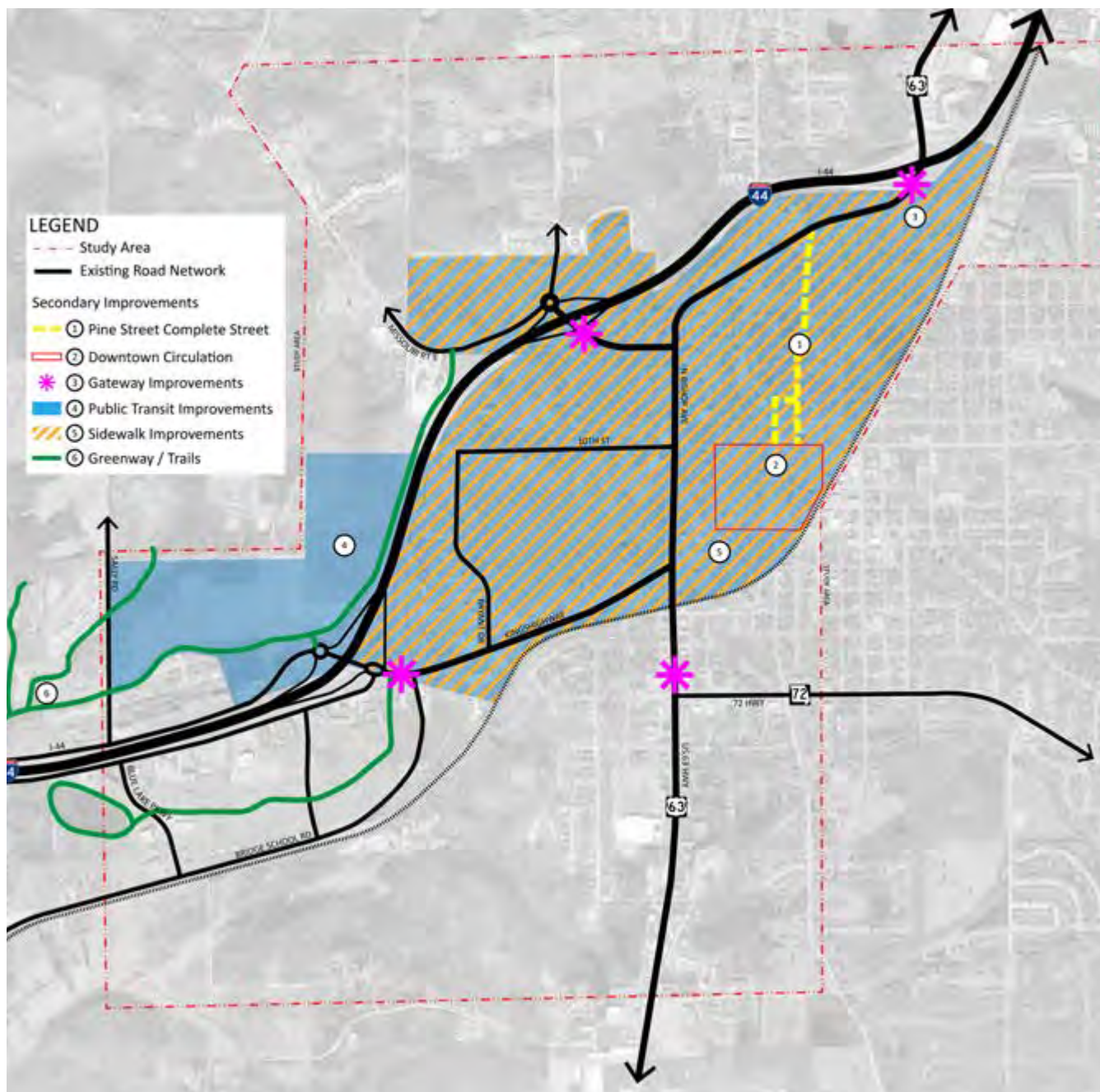
The initial secondary improvements are defined as projects that would likely be long-term and would need to be further defined.

1. Pine Street: Improves Pine Street by narrowing the travel lanes to 11-feet and adding a dedicated bike lane and transforming the one-way segment from 12th to 10th Street to two-way operations.
2. Downtown Circulation: Convert 1-way streets to 2-way operations throughout downtown.
3. Gateway Improvements: New community gateways at the I-44/Bishop Avenue Interchange, I-44/Kingshighway Interchange and Bishop Avenue just north of Highway 72. These gateways would be similar to the Missouri S&T gateways north of the University Drive/Missouri E interchange but would highlight Rolla and Missouri S&T.
4. Public Transit Improvements: This project would be a partnership between the City and Missouri S&T for expanded public transit service that would cover Missouri S&T, downtown and the new Westside Marketplace.
5. Sidewalk Improvements: This project would fix gaps in the sidewalk network and repair aging sidewalks downtown. Sidewalk improvements are intended to address basic pedestrian needs including, but not limited to, connecting the Missouri S&T campus, downtown, adjacent neighborhoods, parks and other important local destinations.
6. Greenway/trails: new 12-foot multipurpose pedestrian and bicycle trails connecting Rolla West, Westside Marketplace, Missouri S&T and downtown to the existing sidewalk network.

MoveRolla

TRANSPORTATION STRATEGY

Figure 5: Initial Secondary Improvements



MoveRolla

TRANSPORTATION STRATEGY

V. ANALYSIS

A future traffic analysis is provided for existing conditions and three future scenarios:

1. Existing 2014 conditions;
2. Future 2040 No-Build Conditions;
3. 2040 Build Conditions with signalized intersections along US-63 (Bishop Avenue); and
4. 2040 Build conditions with roundabouts at: Walnut and US-63 (Bishop Avenue), Vichy and US-63 (Bishop Avenue), Pine and US-63 (Bishop Avenue), University Drive and Bishop, 10th Street and US-63 (Bishop Avenue), Kingshighway and US-63 (Bishop Avenue), and Bridge School Road.

MoveRolla was developed through a technical analysis of existing and future conditions, review of *study area plans including the Missouri S&T Campus Master Plan, the Westside Marketplace Development Plan, Rolla West Master Plan, and the Phelps County Regional Medical Center Master Plan*. Input was also gathered from the project core team, stakeholders and the public. A future conditions analysis was performed for year 2040 conditions.

Traffic

Traffic analysis was performed to assess the operations of traffic flow on a future network. Level of Service (LOS) is a standard measurement of traffic service ranging from LOS A (best) to LOS F (worst). The City of Rolla's maximum LOS threshold goal is D meaning LOS A-D are considered acceptable. MoDOT's maximum LOS threshold goal is E meaning LOS A-E are considered acceptable.

Table 1 below shows the LOS thresholds.

Intersection traffic results reflect a diversion of through traffic from US-63 (Bishop Avenue) to the Highway 72 Extension and I-44. Peak hour intersection LOS results are provided in **Tables 2** and **3** on the following pages.

Table 1: Intersection Level of Service Performance Thresholds

Level of Service (LOS)	*Intersection	
	Signalized	Unsignalized
A-C	<35	<25
D	35.1 - 55	25.1 - 35
E	55.1 - 80	35.1 - 50
F	> 80	> 50

Source: Highway Capacity Manual, 2010

*Shown in seconds of delay per motorist

MoveRolla

TRANSPORTATION STRATEGY

Existing conditions were analyzed using the existing geometrics and existing traffic signal timings. Future No-Build conditions were analyzed using the existing geometrics, future 2040 traffic optimized traffic signal timings at existing traffic signals. Future Build conditions for signals and roundabouts assumed that either traffic signals or roundabouts were constructed at most intersections along US-63 (Bishop Avenue). The Build scenarios also assumed that US-63 (Bishop Avenue) through traffic was diverted to I-44 and the Highway 72/US-63 bypass improvement. Many study intersections had additional improvements. Assumed improvements are documented in Appendix A.4.



Table 2: AM Peak Hour Traffic Level of Service

	Existing 2014	Future 2040		
		No Build	Signals	Roundabouts
SB I-44 ramps at US-63	A-C	A-C	A-C	A-C
NB I-44 ramps at US-63/Walnut	E	*D	A-C	A-C
US-63 & Pine	A-C	A-C	A-C	A-C
US-63 & Vichy	A-C	A-C	A-C	A-C
US-63 & University	A-C	A-C	--	--
US-63 & 12th Street	--	--	A-C	A-C
US-63 & 10th Street	A-C	A-C	D	A-C
US-63 & Kingshighway	A-C	E	A-C	A-C
US-63 & Highway 72	A-C	D	A-C	A-C
SB I-44 ramps at University	A-C	A-C	A-C	A-C
SB I-44 ramps at Kingshighway	A-C	A-C	A-C	A-C
NB I-44 ramps at Kingshighway	A-C	A-C	A-C	A-C
Kingshighway / Bridge School Road / Highway 72 Bypass	--	--	A-C	A-C

Source: HNTB Corporation - Synchro/Sidra results

The yellow highlighted cells indicate LOS E or F

*Traffic is congested south of this intersection and meters how much traffic arrives at the intersection.

MoveRolla

TRANSPORTATION STRATEGY

Table 3: PM Peak Hour Traffic Level of Service

	Existing 2014	Future 2040		
		No Build	Signals	Roundabouts
SB I-44 ramps at US-63	A-C	E	A-C	A-C
NB I-44 ramps at US-63/Walnut	F	F	A-C	A-C
US-63 & Pine	D	D	A-C	A-C
US-63 & Vichy	D	E	A-C	A-C
US-63 & University	A	D	--	--
US-63 & 12th Street	--	--	A-C	A-C
US-63 & 10th Street	A-C	E	D	A-C
US-63 & Kingshighway	E	F	A-C	A-C
US-63 & Highway 72	A-C	E	D	D
SB I-44 ramps at University	A-C	A-C	A-C	A-C
SB I-44 ramps at Kingshighway	A-C	A-C	A-C	A-C
NB I-44 ramps at Kingshighway	A-C	A-C	A-C	A-C
Kingshighway / Bridge School Road / Highway 72 Bypass	--	--	A-C	A-C

Source: HNTB Corporation - Synchro/Sidra results
The yellow highlighted cells indicate LOS E or F

In summary, today there are existing intersections that operate at an undesirable LOS E or F. The intersections are the NB I-44 ramps at US-63 (Bishop Avenue)/Walnut in the AM peak hour and NB I-44 ramps at US-63 (Bishop Avenue)/Walnut and US-63 (Bishop Avenue) and Kingshighway in the PM peak hour. All other intersections currently operate at a desirable level of service. When existing 2014 traffic is grown to 2040 conditions and no geometric improvements are made, many intersections operate at an undesirable level of service. When the projects identified in the *MoveRolla* are implemented and geometric improvements are made to intersections and streets in the study area, all intersections are expected to operate at a desirable level of service whether they are signalized or include a roundabout.

MoveRolla

TRANSPORTATION STRATEGY

Safety

US-63 (Bishop Avenue) have was found to have the majority of the vehicle and pedestrian crashes in the study area. Therefore, the focus of future safety improvements is along that corridor. The focus of the safety improvements along US-63 (Bishop Avenue) is to convert the road from a state highway to a complete street city boulevard. This will need to occur in stages but some of the primary elements include reducing traffic by moving through traffic to another route, reducing the number of through lanes, slowing vehicle speeds, introducing a mix of modes, introducing a median and alternative intersection types. All of these improvements are part of a Bishop Avenue complete street solution.

Implementation of the complete street solutions is expected to reduce vehicle and pedestrian crashes by 36 to 73 percent. This would represent an annual reduction of 19 to 49 crashes from the 77 annual crashes today.

Evaluation of Alternatives

Project improvements were evaluated based on the project vision and study goals as well as core team, stakeholder and public feedback. This was an iterative process that included a qualitative and quantitative assessment. The results of this evaluation are shown in Section VI.



The *Missouri S&T Campus Master Plan* recommends improving safety for pedestrians as well as aesthetic enhancements to US-63 (Bishop Avenue) to meet the needs of a growing student population and to enhance the University's image.

Table 4: Study Goal Evaluation

Study Goal	Performance Measure
Develop a safe transportation environment	Vehicular and Pedestrian Reduction of Accidents
Develop a convenient transportation system	Enhances regional mobility, connectivity and accessibility
Promote Multimodal	Includes all modes of mobility
Develop a transportation system that promotes economic opportunities	Promotes new or infill development
Develop a transportation system that creates a sense of place	Enhances character and sense of place
Constructability and Phasing	Can be constructed with other projects and cost share

Note: constructability and phasing was added to the original study goals.

Conceptual Costs

Conceptual costs were developed for the improvements. These costs are conceptual and based on typical lineal foot and unit cost estimates for proposed improvements. These conceptual costs are in 2015 dollars. Actual construction of these projects would occur over many years and unit costs will change over time.

A summary of the conceptual costs are shown in **Table 5** on the following page.

Note: Costs were not developed for improvements that require further study. The costs were calculated construction, right-of-way and total costs.

MoveRolla

TRANSPORTATION STRATEGY

Table 5: Initial Project Conceptual Costs

PROJECT	2015 Probable Construction Cost (Millions)	ROW	2015 Probable Construction Cost and ROW (Millions)
72 Extension & I-44 and Bishop reconfiguration (e.g. SB Right Turn to I-44)	\$7.3	\$4.1	\$11.4
Bishop Avenue Complete Streets (Phase 1)	\$2.0	\$0.0	\$2.0
Kingshighway Improvements	\$3.8	\$0.0	\$3.8
Westside Marketplace			
a. Westside Marketplace Frontage Road	\$8.6	\$0.0	\$8.6
b. Westside Marketplace Mass Grading	\$7.0	\$0.0	\$7.0
10th Street Overpass	\$7.0	\$1.6	\$8.6
University Pedestrian Bridge	\$2.0	\$0.0	\$2.0
University Realignment (includes improved hospital access)	\$3.7	\$1.6	\$5.3
Bishop Avenue Complete Streets (Phase 2)	\$7.3	\$0.0	\$7.3
Reconstruct 10th Street from Bishop Avenue to Innovation Drive	\$0.8	\$0.0	\$0.8
Innovation Drive Extension to Bryant Drive	\$0.5	\$0.0	\$0.5
Pine Street Reconstruction from Bishop to 10th Street to include converting Pine two-way traffic from 12th to 10th	\$1.2	\$0.0	\$1.2
Additional Westside Marketplace Roads (backage roads and other non-frontage roads)	\$5.0	\$0.0	\$5.0
*Downtown Circulation	Further Study Required		
*Gateway Improvements			
*Public Transit Improvements			
*Sidewalk Improvements			
*Greenway/Trails			

Source: Archer-Elgin Engineers

*These projects have not been defined in sufficient detail at this time to develop costs and specific priorities.

MoveRolla

TRANSPORTATION STRATEGY



As shown in the examples above, a complete street balances the needs of motorists, pedestrians, bicycles and transit.

VI. RECOMMENDED MULTIMODAL NETWORK IMPROVEMENTS

The City of Rolla's future growth is dependent on the provision of adequate transportation infrastructure and capacity to support future economic and population growth. Based on the evaluation of alternatives described in **Section V**, three phases of implementation were identified representing short-term, mid-term and long-term implementation. **Figure 7** on page 28 represents the recommended multimodal network improvements. Below that is a description of each project by Phase. Note, the numbers correspond to locations in **Figure 7** and do not represent specific priorities.

Phase 1 (Short-Term Improvements)

1. Highway 72 Extension

This project extends the 4-lane Highway 72/Ridgeview Road west tying into the I-44/Kingshighway interchange. Includes 6-foot sidewalks on both sides of the road. The project will also connect to Bridge School Road and a future 2-lane road connecting Bryant Road (not included in the conceptual cost estimate). This improvement would provide significant congestion relief along Bishop Avenue and Kingshighway by providing a US-63/72 bypass for through traffic. This concept was included in the US-63 Bypass Environmental Impact Statement (EIS) Record of Decision in 2002.

Bishop Avenue Complete Street Concept

This project will ultimately result in a transformation of Bishop Avenue from a US Highway to a complete street from I-44 south to Kingshighway. Complete street improvements may include a road diet through the reduction of a travel lane leaving one lane in each direction and a center turn lane with segments of median treatments where practical. The vacated lane will be repurposed to a separated bicycle lane and sidewalk. Other improvements will include improved crosswalks, access management improvements, gateways and aesthetic treatments. These improvements are intended to transform the corridor from a highway to a "Main Street" character, reduce visual clutter, and calm traffic by slowing vehicle speeds and reducing conflicts improving the pedestrian and bicycle environment. These improvements are consistent with the vision of the 2014 *Missouri S&T Campus Master Plan*.

MoveRolla

TRANSPORTATION STRATEGY

Complete Street Options

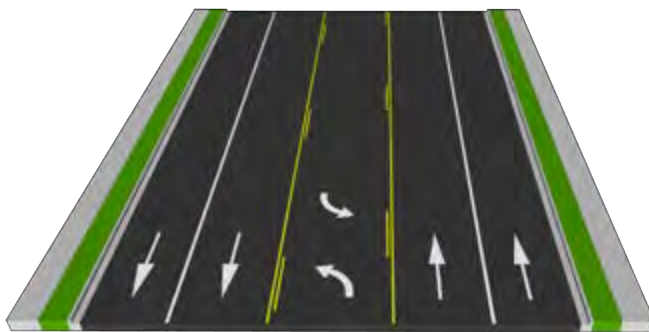
The existing Bishop Avenue cross-section includes 4 travel lanes and a center turn lane. The sidewalks range between 4 to 6-feet wide. The Bishop Avenue Complete Street improvements could include the reduction of one travel lane in each direction. Options for the repurposed lane (shown below in **Figure 6**) include a shared bike lane with wide sidewalk; a dedicated bike lane with a narrow median and wide green space buffer and sidewalk; and dedicated bike lane with wide median and 6-foot sidewalks as shown below. Additional typical section options can be explored in the next project phase if desired.

The full complete street improvements will not be able to completed in within Phase 1. The Highway 72 extension will need to be constructed and operational before reduction of a travel lane on Bishop Avenue is considered. Therefore, these improvements have been divided into three phases (A, B and C).

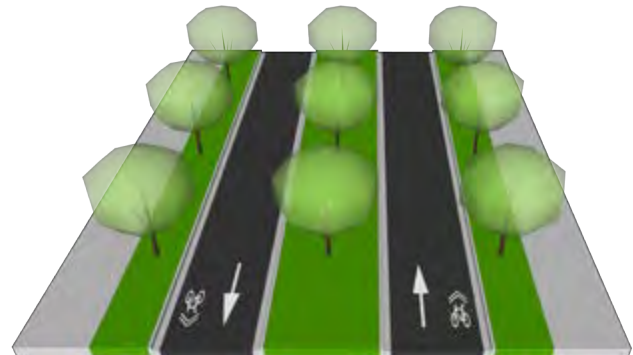


Dedicated bike lane example

Figure 6: Potential Bishop Avenue Complete Street Configurations



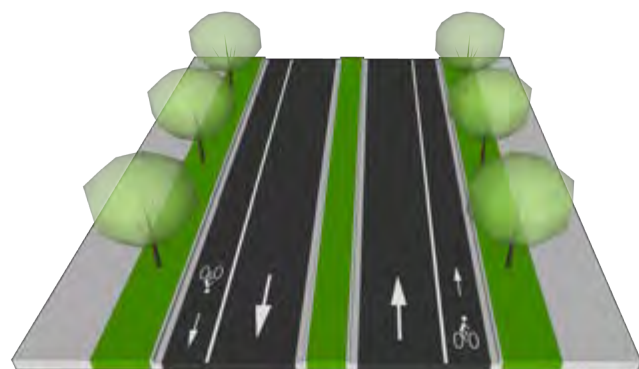
Existing conditions



Wide median, wide sidewalk and sharrow



Wide median, bike lane



Bike lane, wide sidewalk

MoveRolla

TRANSPORTATION STRATEGY



Cycle track with bollard separation



Pedestrian bridge in Portland, OR

2. Bishop Avenue Complete Street (Phase A)

Interim, Phase A, improvements along Bishop Avenue that do not require major geometric modifications include improved pedestrian signal timing, signage and wayfinding, access management strategies and policies and aesthetic improvements. Improvements also include the Walnut Street intersection. Could include temporary bollards and cycle track, as shown in the photo to the left, or dedicated bike lanes on outside lanes as a possible demonstration project

3. Kingshighway Improvement

Improve Kingshighway to a 3-lane roadway with raised median islands with left turn lanes from I-44 to US-63 (Bishop Avenue). The project will include 6-foot sidewalks on both sides of the road. The project will also include roundabouts at US-63 (Bishop Avenue) and the intersection of Highway 72 Extension, Bridge School Road and Kingshighway (not included in the conceptual cost estimate).

4. Westside Marketplace Outer Road and Mass Grading

New 2-lane outer road connecting Missouri Route E/University Drive to the Westside Marketplace and the I-44/Kingshighway Interchange. Includes two entrances (from roundabout and from Old Wire Road), then frontage from Sally to Route E. 3 lanes from Old Wire Road to the 10th Street Overpass with islands. Includes a 10-foot bike/hike trail on one side of the road and mass grading for the Westside Marketplace. Costs do not include backage or other internal roads.

5. I-44 Pedestrian Bridge

New dedicated 10-foot bicycle/pedestrian overpass located just east of the I-44/Missouri Route E Interchange Bridge. The bridge will span I-44 and connect the sidewalk on University Drive to White Columns Drive north of the interchange connecting University housing.

6. 10th Street Overpass

New 2-lane overpass which will provide a direct connection to the Westside Marketplace. The overpass will fly over I-44 and connect to the Westside Marketplace Outer Road. Includes a 10-foot bike/hike trail on one side of the road.

MoveRolla

TRANSPORTATION STRATEGY

Phase 2 (Mid-Term Improvements)

7. Bishop Avenue Complete Street (Phase B)

Fully implemented Complete Street improvements between University Drive and 9th Street. This includes a road diet through the reduction of a travel lane leaving one lane in each direction and a median with roundabouts at major intersections. Up to three typical section options will be explored and discussed with the community. Other improvements include improved crosswalks, access management improvements, gateways and aesthetic treatments.

8. Bishop Avenue Complete Street (Phase C)

Fully implemented Complete Street between University Drive and I-44 and 9th Street to Kingshighway.

9. University Drive Realignment

This project is a realignment of University Drive that will provide a new direct connection to Miner Circle Drive which serves as the Missouri S&T campus front door. The new entrance to campus will be defined with new signage and landscaping that will clearly identify the access to campus and to student services.

10. 10th Street Reconstruction

Reconstruction of 10th Street from Bishop Avenue to Innovation Drive.

11. Innovation Drive Extension

Extension of Innovation Drive to Bryant Street.

12. Pine Street

The project will narrow the travel lanes to 11-feet and add dedicated bike lanes. Includes conversion of the one-way segment from 12th to 10th Street to two-way operations.



A complete street meets the needs of all users and transportation modes as shown above.



Existing University Drive

MoveRolla

TRANSPORTATION STRATEGY



Existing Missouri S&T gateway.



Example of multipurpose trail.

Phase 3 (Long-Term Improvements)

13. Downtown Circulation

Conversion of selected downtown 1-way streets to 2-way operations.

14. Gateway Improvements

New gateways at the I-44/Bishop Avenue Interchange, I-44/Kingshighway Interchange and Bishop Avenue just north of Highway 72.

15. Public Transit Improvements

Partnership between the City and Missouri S&T for expanded public transit service.

16. Sidewalk Improvements

This project would fix gaps in the sidewalk network and repair aging sidewalks downtown. Sidewalk improvements are intended to address basic pedestrian needs including, but not limited to, connecting the Missouri S&T campus, downtown, adjacent neighborhoods, parks and other important local destinations.

17. Greenway/Trails

New 12-foot multipurpose pedestrian and bicycle trails connecting Rolla West, Westside Marketplace, Missouri S&T and downtown.

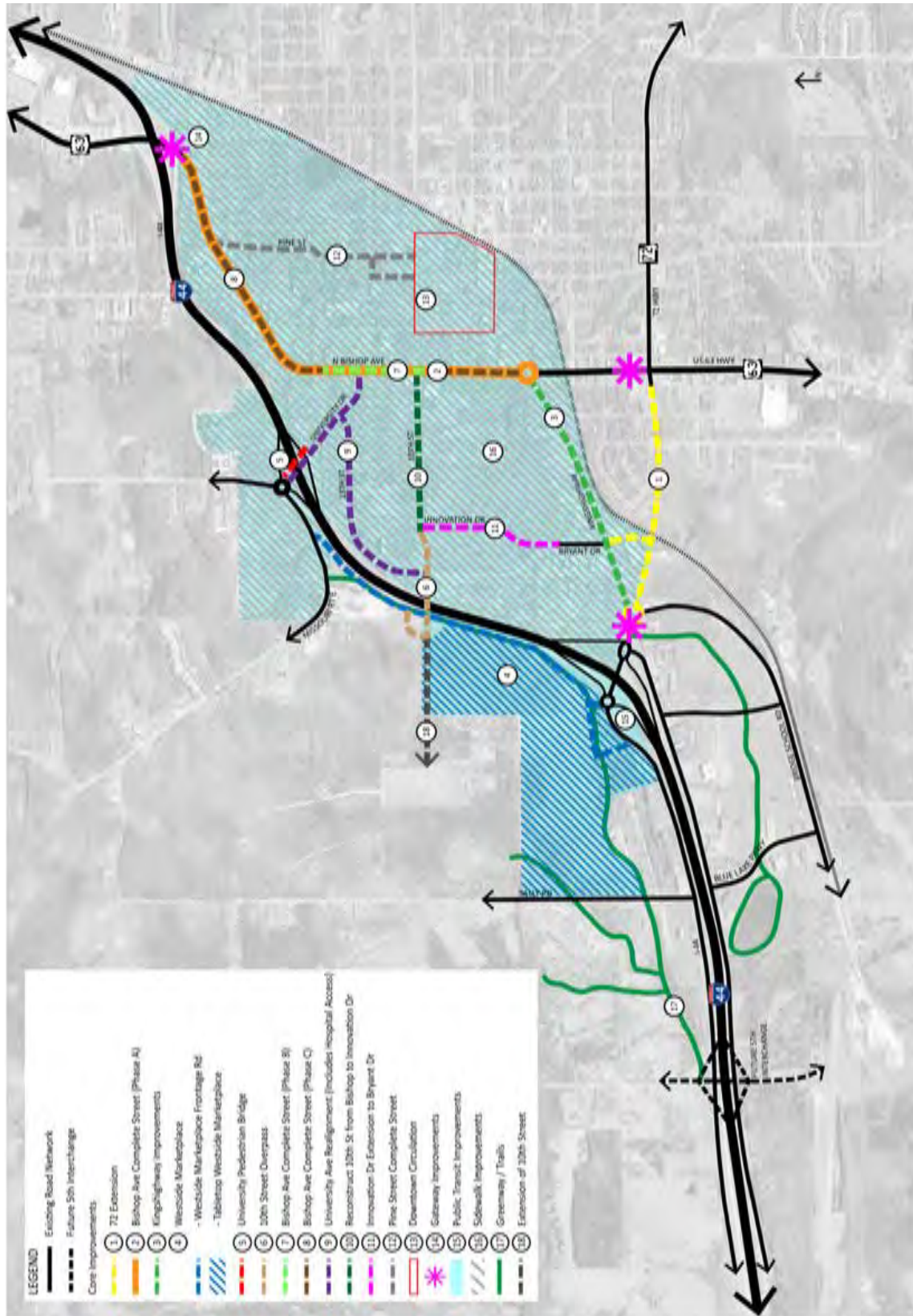
18. 10th Street Extension to Sally Road

Connect the 10th Street Overpass to Sally Road.

MoveRolla

TRANSPORTATION STRATEGY

Figure 7: Recommended Multimodal Improvements



Note: Project numbers on the map correspond to the descriptions on pages 23-27. The numbers do not represent specific priorities.

MoveRolla

TRANSPORTATION STRATEGY

Public Open House Feedback



September 14, 2015 Open House
Presentation of recommended improvements

On September 14, 2015, the project team presented the recommended projects at an open house at City Hall. The open house included stations providing information on the recommended multimodal improvements, a conceptual site plan for the Westside Marketplace and more detailed information on the potential footprints of specific improvements and potential right of way impacts. Participants were provided a handout fact sheet (see Appendix A.3) with a description and map with the specific improvements and three voting dots to indicate their top priorities.

Based on this exercise, the top three priorities (shown in the graph below) were the Highway 72 extension, I-44 Pedestrian Bridge and the Kingshighway Improvements. Close behind were the Westside Marketplace Outer Road and Mass Grading and 10th Street Overpass. It should be noted that the Bishop Avenue Complete Street was divided into three phases. The Bishop Complete Street Phase "A" ranked 6th out of 18 projects, however, the score of the combined phases would change the ranking to 3rd just behind the I-44 Pedestrian Bridge.

Figure 8: Recommended Alternative Public Priority Voting



Note: Top 3 projects by number of votes received are shown in red

VII. IMPLEMENTATION

MoveRolla provides a framework for the implementation of a multimodal transportation network. Throughout the process, the core team, stakeholders and the public clearly articulated the need for a connected transportation network that addresses the safety and mobility needs of all modes. Due to limited funding options, implementation of this Strategy will be a multi-step process that will occur over many years. The Strategy identifies transportation recommendations based upon safety and mobility analysis and input from the core team, stakeholders and the public.

Funding

Funding for these projects would need to come from a new source of revenue. One potential source is a Transportation Development District (TDD). The TDD will require a petition filed with the circuit court that will result in an election of property owners within the TDD boundary of the proposed taxing district. If the TDD passes the election, the TDD would generate revenue based on a percentage of the of sales tax for businesses in the district.

Within the Westside Marketplace, a Tax Increment Financing (TIF) could also be used to help build internal infrastructure to the site. The TIF will redirect a percentage of the “increment” of the property tax to the developers for a specified period of time. The increment is the difference between the tax on the property as it is assessed before development and the tax on the assessment after development. The formation of a TIF will require the formation of a TIF commission, preparation of a redevelopment plan, a public hearing and council action to declare the property blighted and unsuitable for development “but for” the tax financing.

Phasing and Probable Construction Costs

The recommended transportation improvements were developed based on an analysis of existing and future conditions, input from the core team, stakeholders and public, as well as an evaluation of constructability. Some improvements are mutually dependent in terms of constructability and feasibility. For example, the 72 Extensions would need to be constructed and operational prior to the implementation of Bishop Complete Street.

The sequencing of projects is subject to changing conditions and should be carefully evaluated by the City, TDD Board and potential funding partners. A major consideration for the refinement of phasing should be the ability to leverage additional funding such as federal, state, local or private sources. Examples are with MoDOT and the University. Another consideration is the ability to leverage increased development activity that could leverage additional future sales tax revenue for the City and the TDD to support additional projects.

Table 6 on the following page presents the Recommended Transportation Improvements.

MoveRolla

TRANSPORTATION STRATEGY

Table 6: Recommended Transportation Improvements

PROJECT	2015 Probable Cost (Millions)
Phase 1 Improvements (Near Term)	
Highway 72 Extension	\$11.4M
Kingshighway Improvements	\$3.8M
Westside Marketplace	
a. Westside Marketplace Frontage Road	\$8.6M
b. Westside Marketplace Mass Grading	\$7.0M
Bishop Avenue Complete Street Phase "A"	\$2.0M
10th Street Overpass	\$8.6M
University/Route E Pedestrian Overpass	\$2.0M
University Realignment (includes Hospital access)	\$5.3M
Phase 2 Improvements (Mid Term)	
Bishop Avenue Complete Street Phase "B"	\$2.1M
Bishop Avenue Complete Street Phase "C"	\$5.2M
Reconstruct 10th Street from Bishop to Innovation Drive	\$0.8M
Innovation Drive Extension to Bryant Drive	\$0.5M
Pine Street Reconstruction from Bishop to 10th Street	\$1.2M
Phase 3 Improvements (Long Term)	
*Downtown Circulation	Further Study Required
*Gateway Improvements	
*Public Transit Improvements	
*Sidewalk Improvements	
*Greenways/Trails	

Source: Archer-Elgin Engineers

*These projects have not been defined in sufficient detail at this time to develop costs and specific priorities.

MoveRolla

TRANSPORTATION STRATEGY

Next Steps

Upon adoption of this Strategy by the City Council, the City will work with property owners and developers to develop a preferred funding package which will likely include a Transportation Development District and Tax Increment Financing. The City will also pursue federal, state and private cost sharing opportunities to leverage additional funding. When the preferred funding package is in place the City will determine how much revenue can be generated and what projects can be completed within the first phase.

When funding is secured, the City in partnership with the TDD Board will begin preliminary design for the proposed improvements. Preliminary design will provide a more refined project design, cost, right-of-way acquisition and permitting. Modifications to the phasing and sequencing of projects will likely require follow-up analysis. A more detailed traffic report may be needed to satisfy MoDOT of the proposed strategy impacts on their system.

MoveRolla provides a framework for the implementation of a multimodal transportation network for Rolla's central core and west Rolla. The *MoveRolla* recommendations help guide Rolla toward a transportation system that meets the needs of all people and modes and promotes a safe, healthy community and economic opportunities for the next twenty-five years and beyond. This vision includes residents, students, and business community members alike, who all seek the benefits of improved transportation access and innovative transportation solutions within the community.

MoveRolla

TRANSPORTATION STRATEGY

APPENDIX

- A.1 May 6, 2015 Presentation**
- A.2 August 20, 2015 Presentation**
- A.3 September 14, 2015 Open House Boards and Fact Sheet**
- A.4 September 14, 2015 Open House Comments**
- A.5 Assumed Traffic Analysis Improvements**



MoveRolla

TRANSPORTATION STRATEGY

APPENDIX A.1

MAY 6, 2015 PRESENTATION



Rolla Transportation Strategy

Move Rolla

Presentation to

Project Core Team:

City of Rolla

Missouri University of Science & Technology

Phelps County Regional Medical Center

Westside Marketplace

May 5, 2015

Meeting Agenda

- Introductions
- Process & Schedule
- Project Overview
 - Draft Vision, Goals & Objectives
- Existing Conditions
 - Mobility
 - Safety
 - Land Use (Existing, Planned & Future)
 - Infrastructure
 - Key Issues
- Initial Concepts
- Next Steps

Process & Schedule

April May June July August September October

Initiation

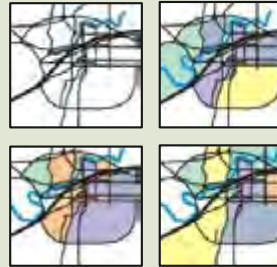
- Data Collection
- Issues
- Analysis
- Vision
- Goals
- Objectives
- Initial Concepts
- Project Priorities
- Define TDD Boundaries
- Draft TDD Petition

Alternative Options



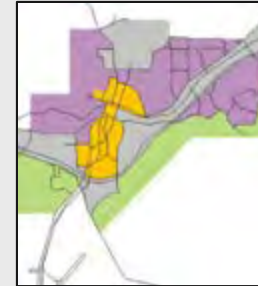
- Identify Options
- Solicit Feedback
- City and County resolutions to pass TDD petition

Test Options



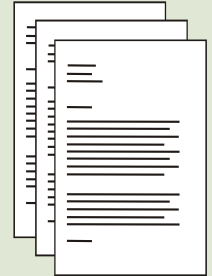
- Evaluate Options
- Identify Preferred Concepts
- Submit draft recommended improvements

Tools and Strategies



- Preferred Plan
- Cost Estimates
- Phasing
- Implementation

Final Plan



- TDD Election December 2015

Information



We are here

Ideas

Analysis



**Second Round of Meetings
Draft Transportation Map & Costs**

Solutions

Actions

- Core Team Meeting
- Stakeholder Meeting
- Public Open House

- Core Team Meeting
- Stakeholder Meeting
- Public Open House

- Core Team Review

- City Council

Project Overview

- The Rolla Daily News Headlines Exercise
 - *City unveils new Transportation Plan to welcome Westside Development*
 - *City unveils a Complete Street for Bishop Avenue*
 - *Others . . .*

Project Overview

- Draft Vision

- Develop a transportation system that meets the needs of all people and modes and promotes a safe, healthy community and economic opportunities for the next 20 years.

- Draft Goals

- Develop a safe and convenient transportation environment
- Promote alternative mobility choices
- Develop a transportation system that promotes economic opportunities
- Creates a sense of place

Project Overview

- Draft Objectives

- Provide safe and convenient multimodal connections to the Westside Marketplace, Hospital, University and Downtown.
- Convert US 63 from a highway to a complete street (Bishop Avenue) with slower vehicular traffic, safe pedestrian connections and enhancements to provide a positive impression of the City and campus.
- Redirect US 63/72 to a new bypass for freight and through traffic.

Existing Conditions

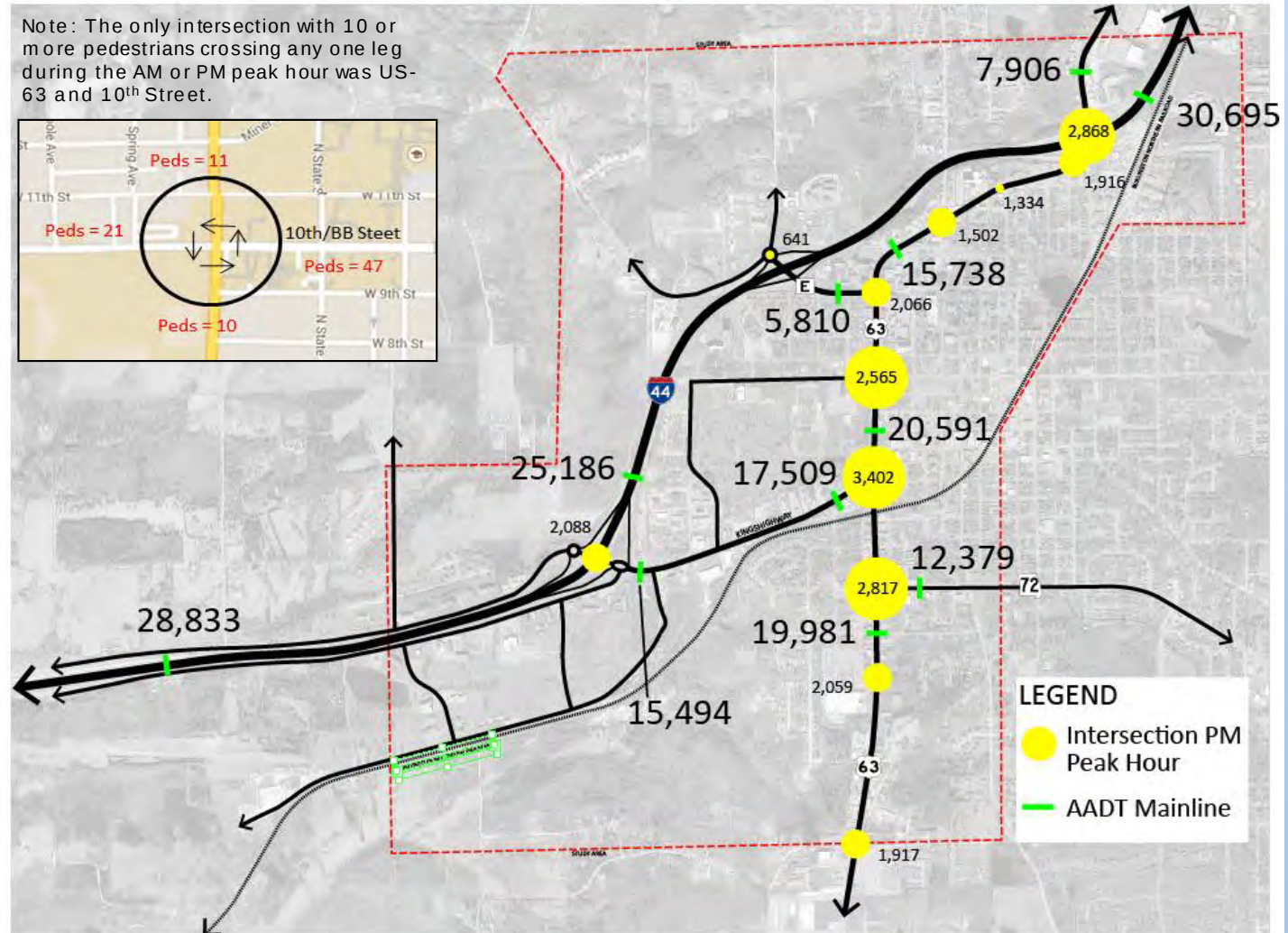
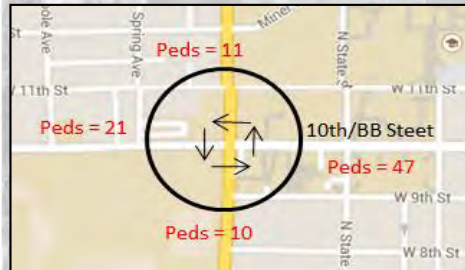
- Mobility
 - Existing demand
 - Existing level of service
 - US 63 Origins and Destinations
 - Bicycle and Pedestrian considerations
 - Transit

Existing Conditions

Mobility

Existing Demand

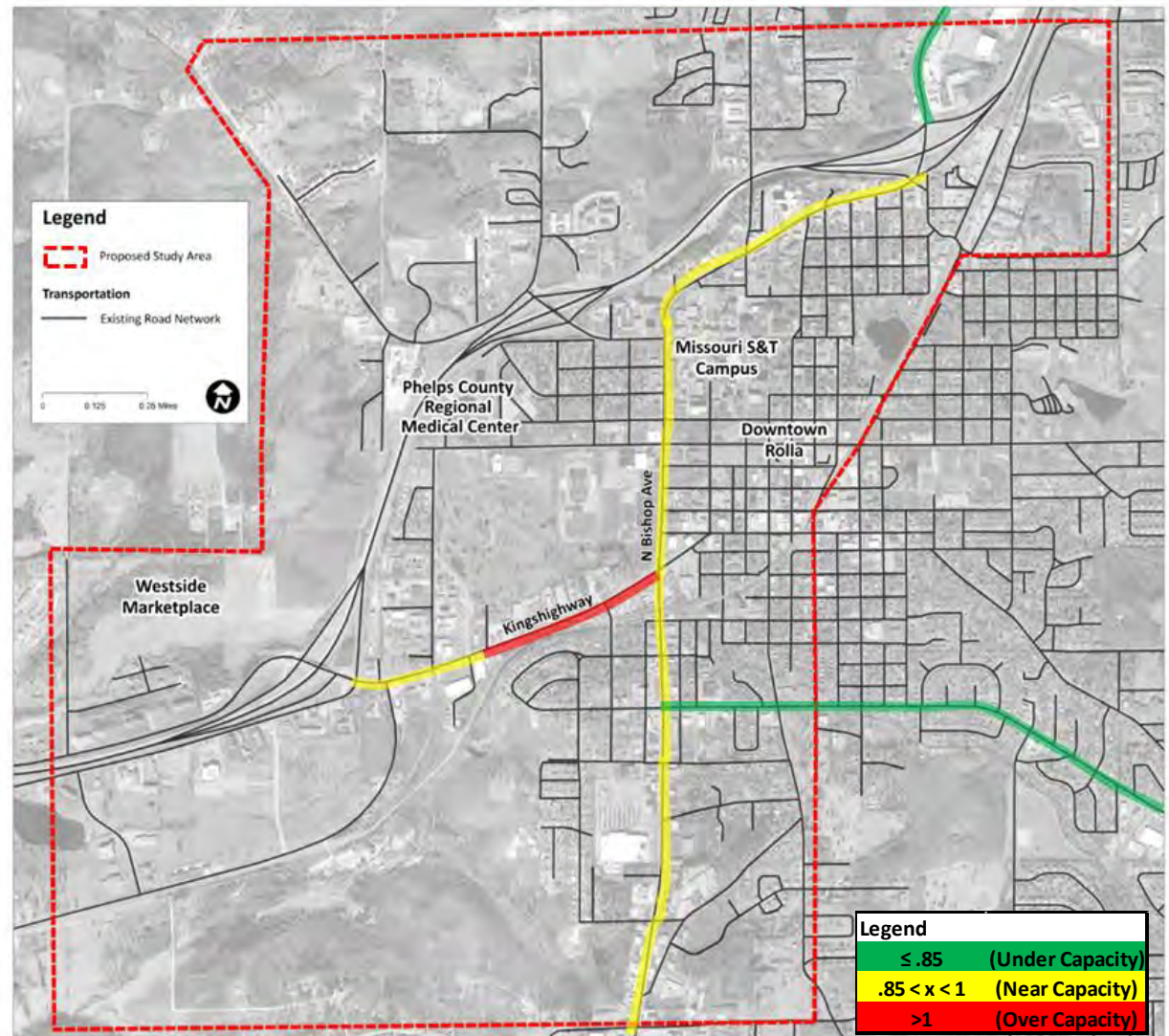
Note: The only intersection with 10 or more pedestrians crossing any one leg during the AM or PM peak hour was US-63 and 10th Street.



Existing Conditions

Mobility

Existing Level of Service



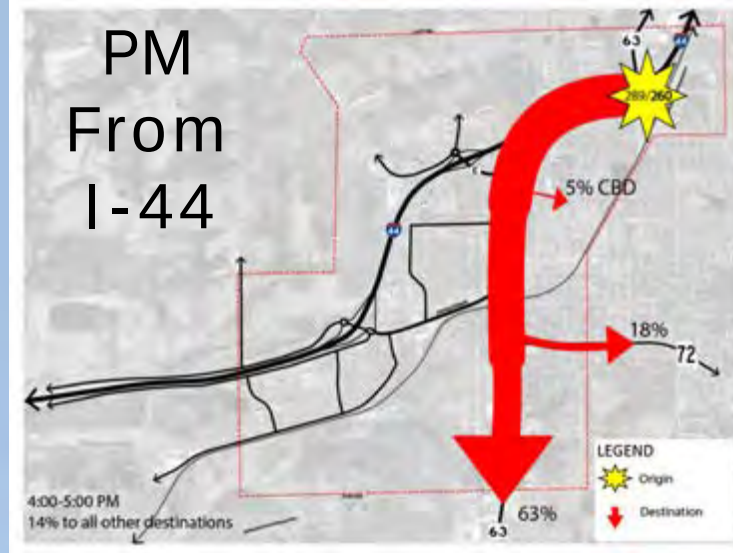
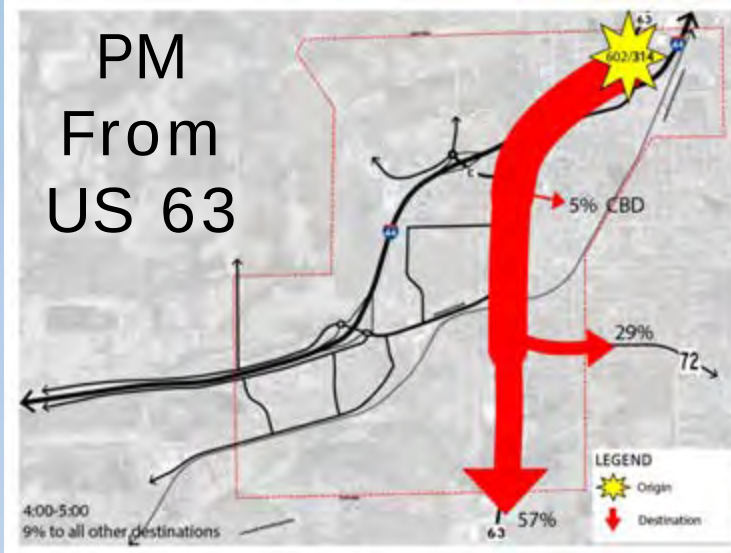
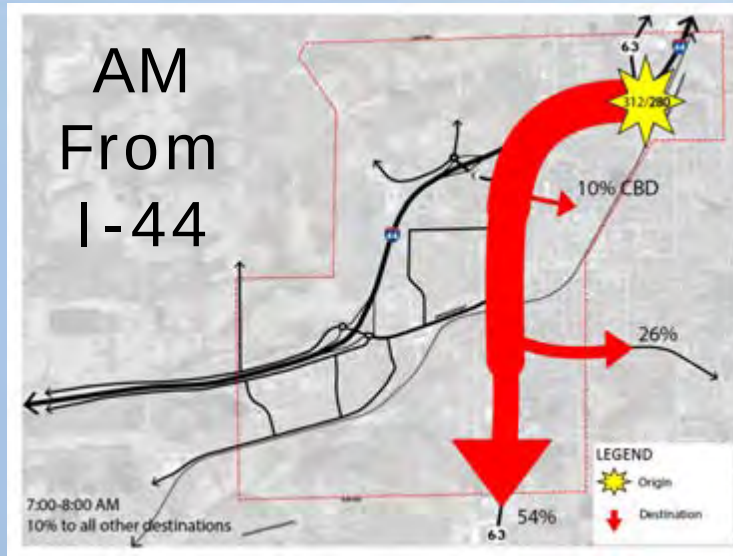
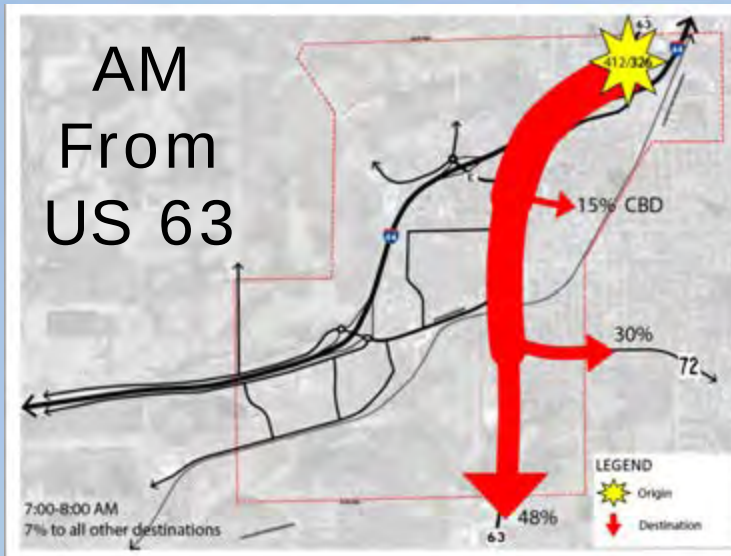
Existing Conditions

Mobility

Origin & destination trips that travel Bishop Avenue

Through trips

- 478 SB AM
- 481 SB PM



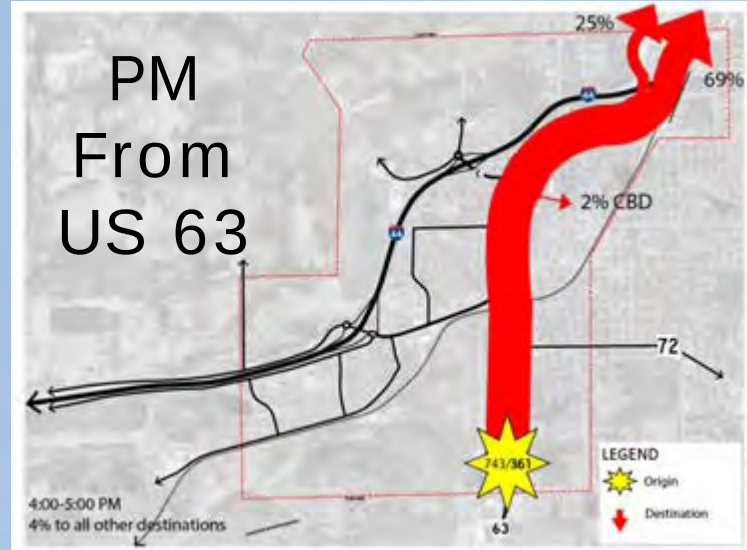
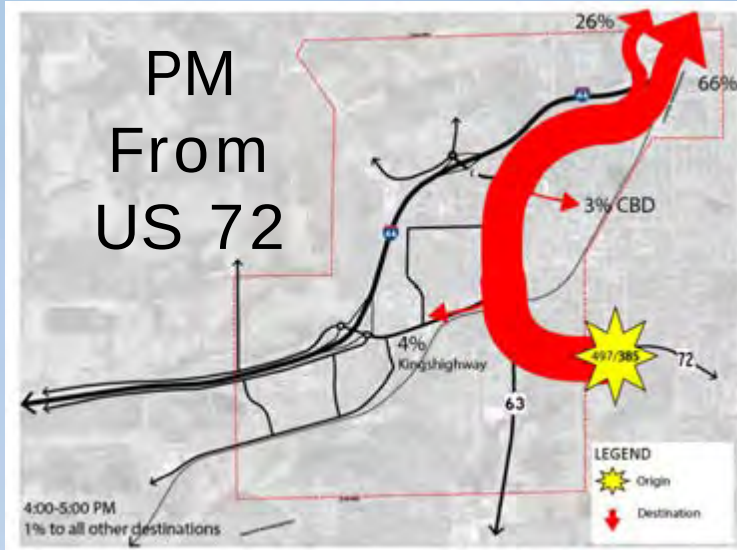
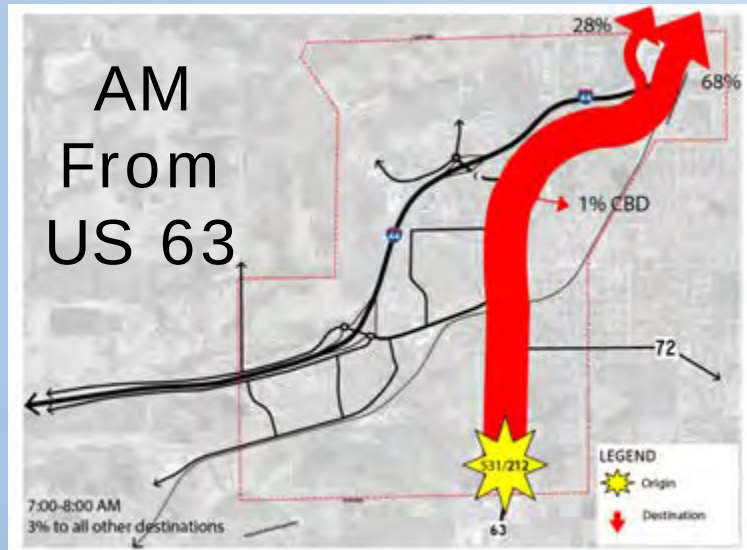
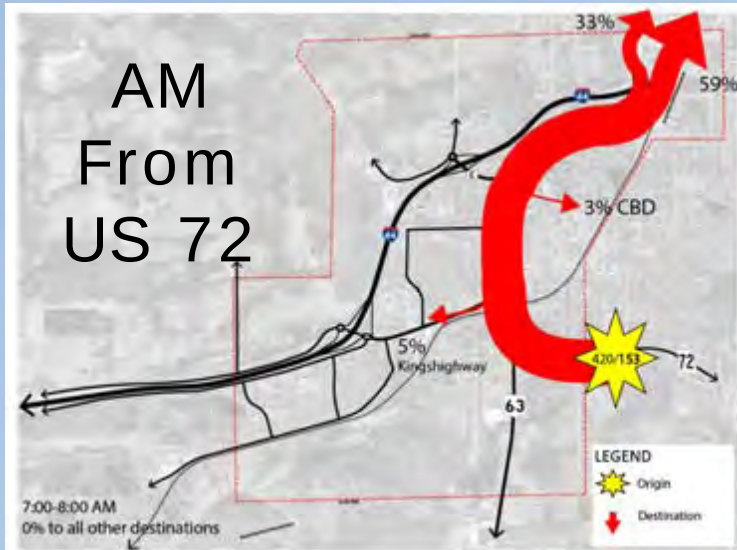
Existing Conditions

Mobility

Origin & destination trips that travel Bishop Avenue

Through trips

- 345 NB AM
- 693 NB PM



Existing Conditions

Mobility

Origin & destination trips that travel along Bishop Avenue

Through trips

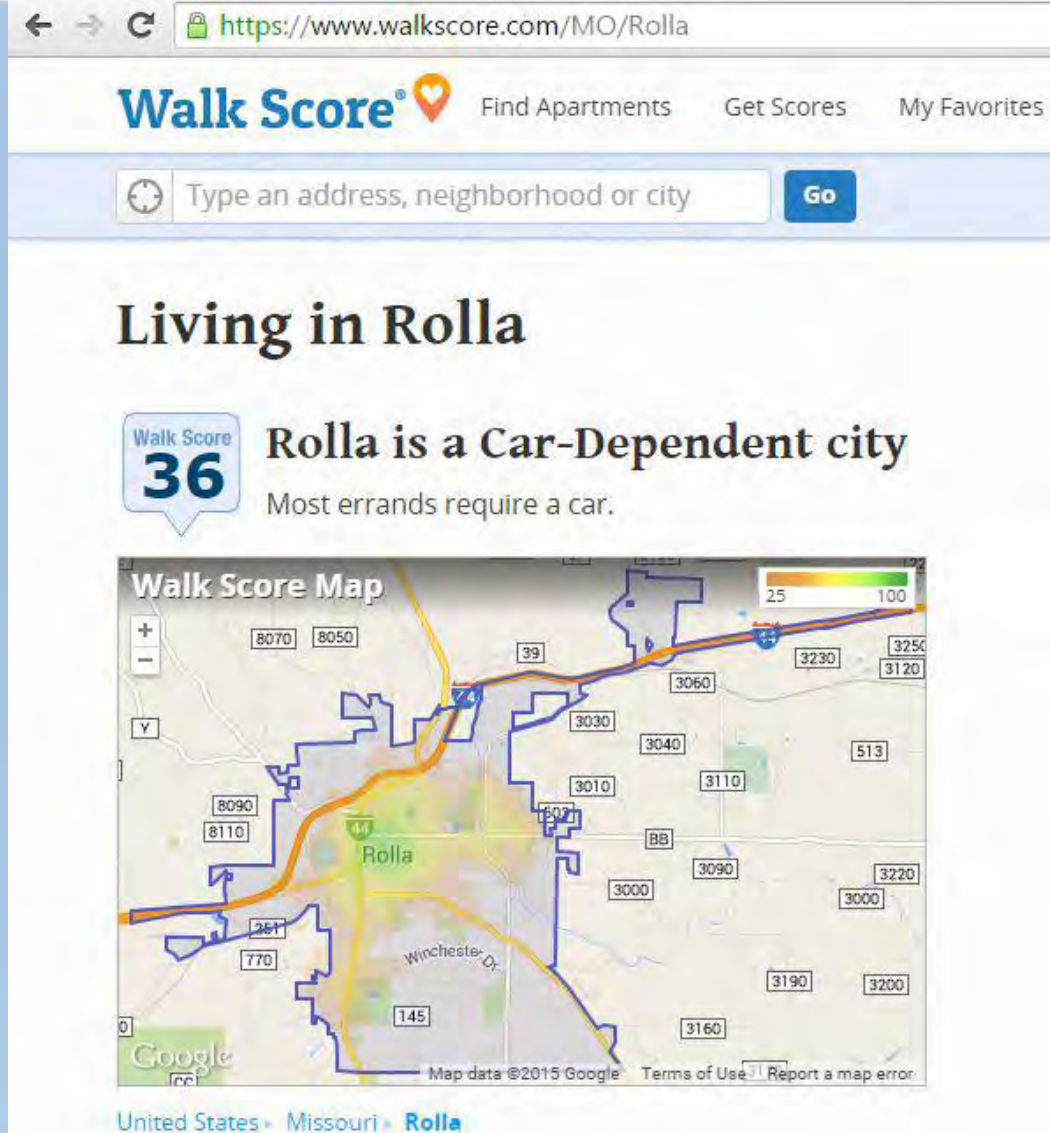
- 345 NB AM
- 693 NB PM
- 473 SB AM
- 481 SB PM

	US 63 north of Kingshighway			
	SB AM Peak	NB AM Peak	SB PM Peak	NB PM Peak
Existing Traffic	974	591	1,116	1,301
Estimated Arterial Lane Capacity	800	800	800	800
Traffic diversion needed for one lane reduction direction.	174	0	316	501
INRIX calculated through trips	473	345	481	693
Percent traffic needed to be diverted	37%	0%	66%	72%

Existing Conditions

Mobility

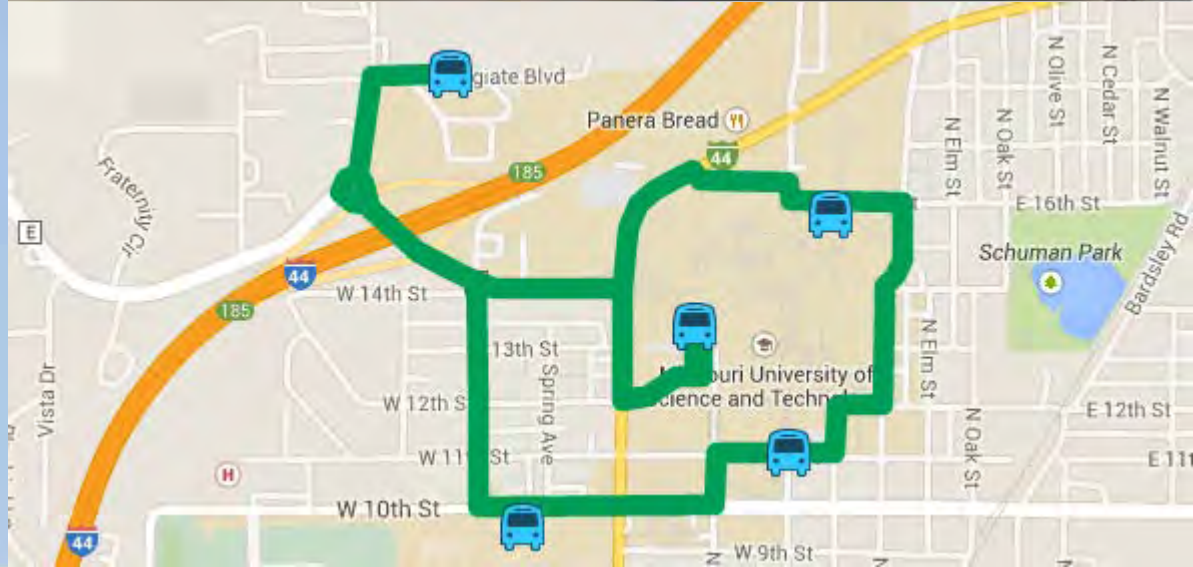
Bicycle and Pedestrian Considerations



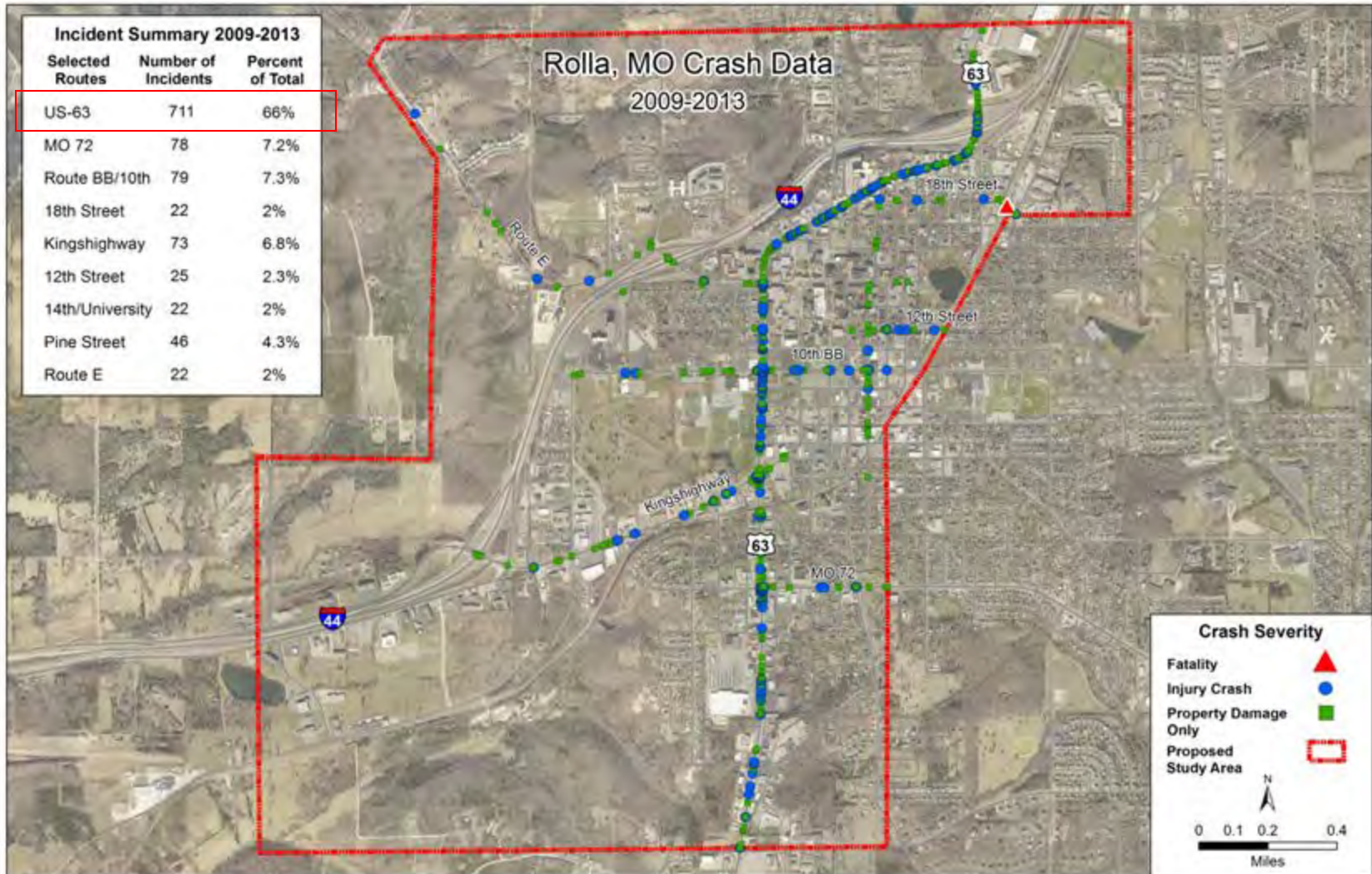
Existing Conditions

■ Mobility

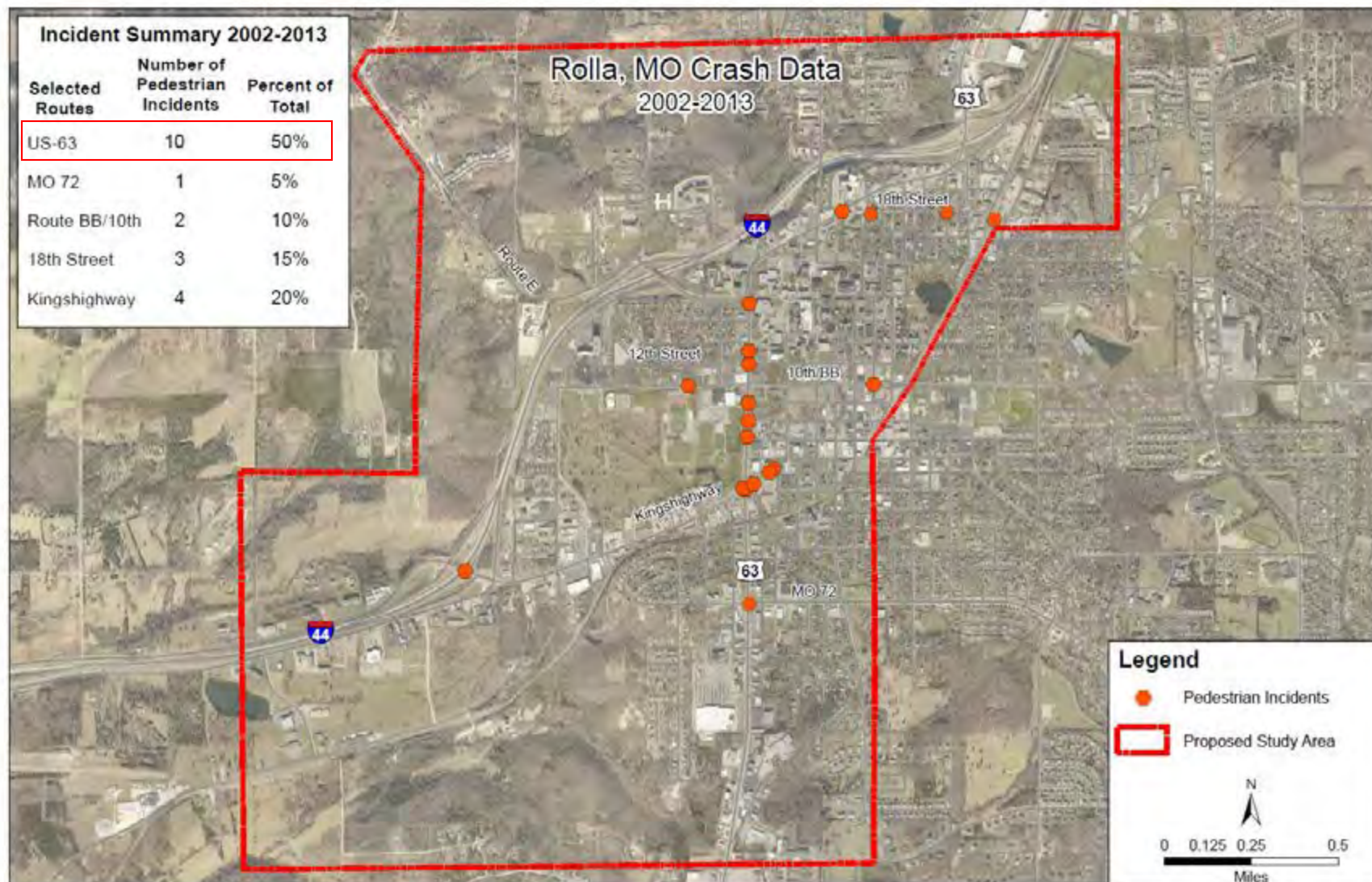
- Transit: EBus Electric-Powered Shuttle
- Seats 22 seated passengers and 10 standing passengers
- Completes a loop around the Missouri S&T campus twice an hour from 7:30 a.m. to 4 p.m. Monday through Friday
- Demand services



Existing Conditions



Existing Conditions



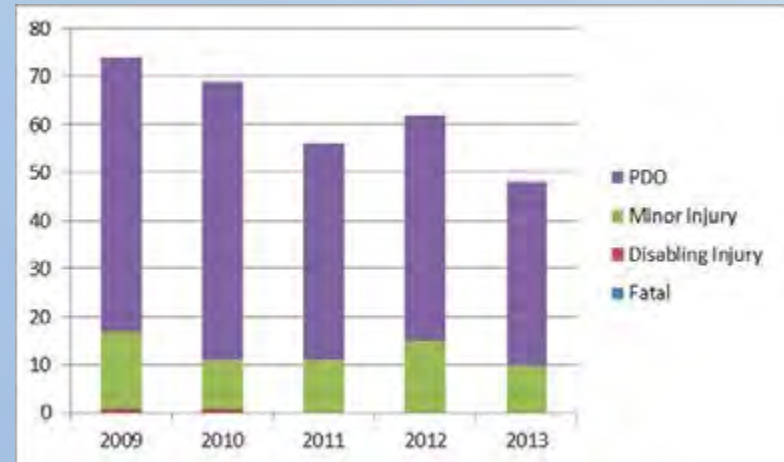
Existing Conditions

■ Safety (2009 to 2013)

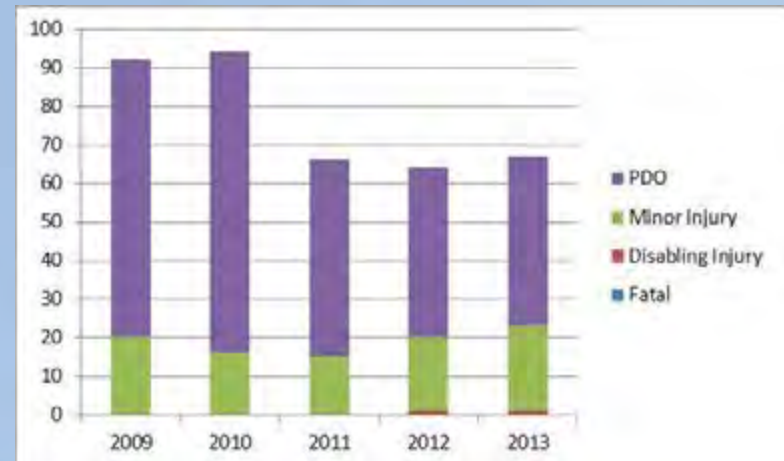
- 309 accidents over 5-years
- An accident every 6 days on average
- 2.7 times above statewide average for a similar facility
- 58% rear end
- 79% Property Damage Only

-
- 383 accidents (over 5-years)
 - An accident every 5 days on average
 - 2.7 times above average for a similar facility
 - 49% rear end
 - 75% Property Damage Only

US 63 (Walnut to Route E)

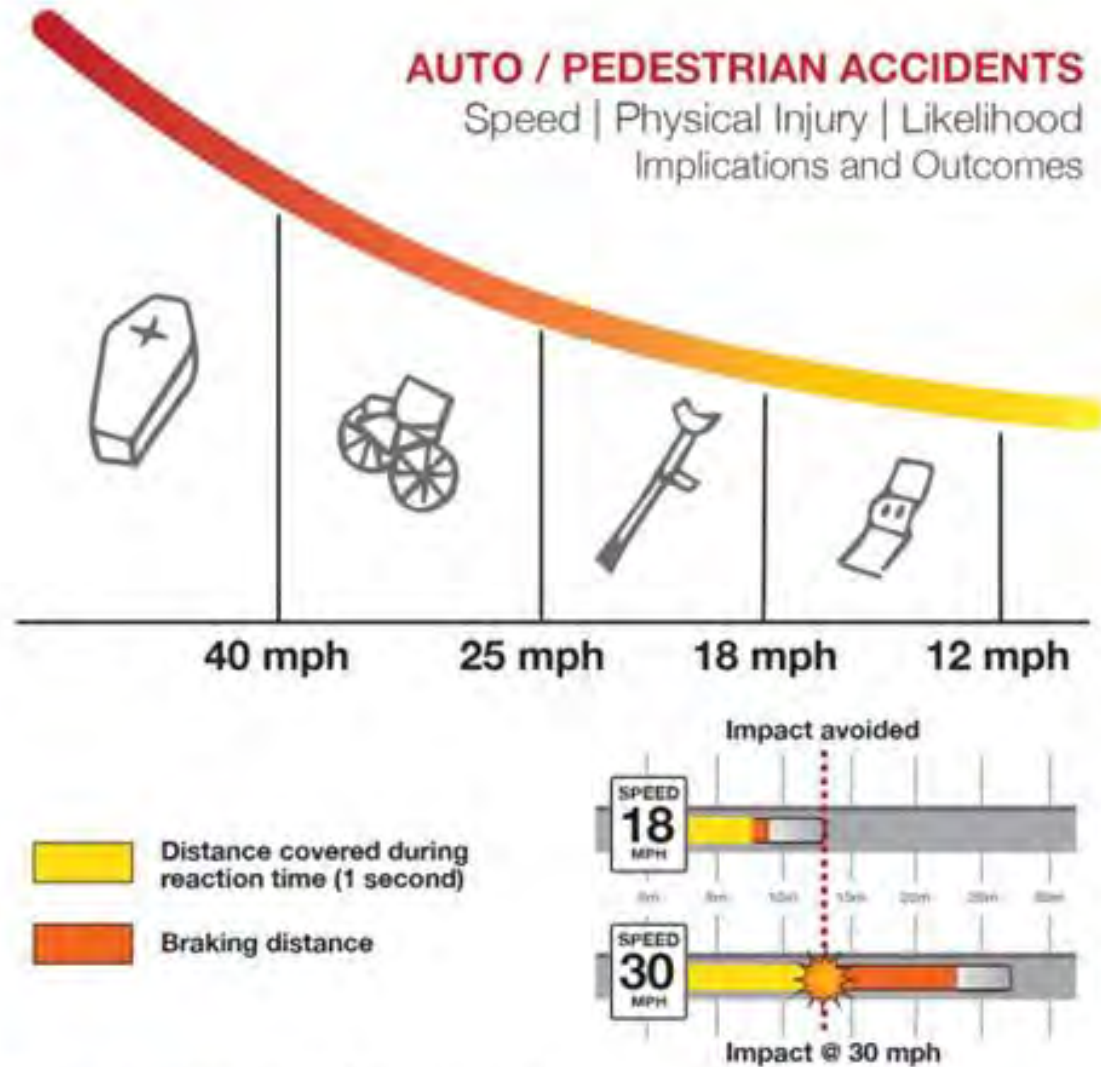


US 63 (Route E to Kingshighway)



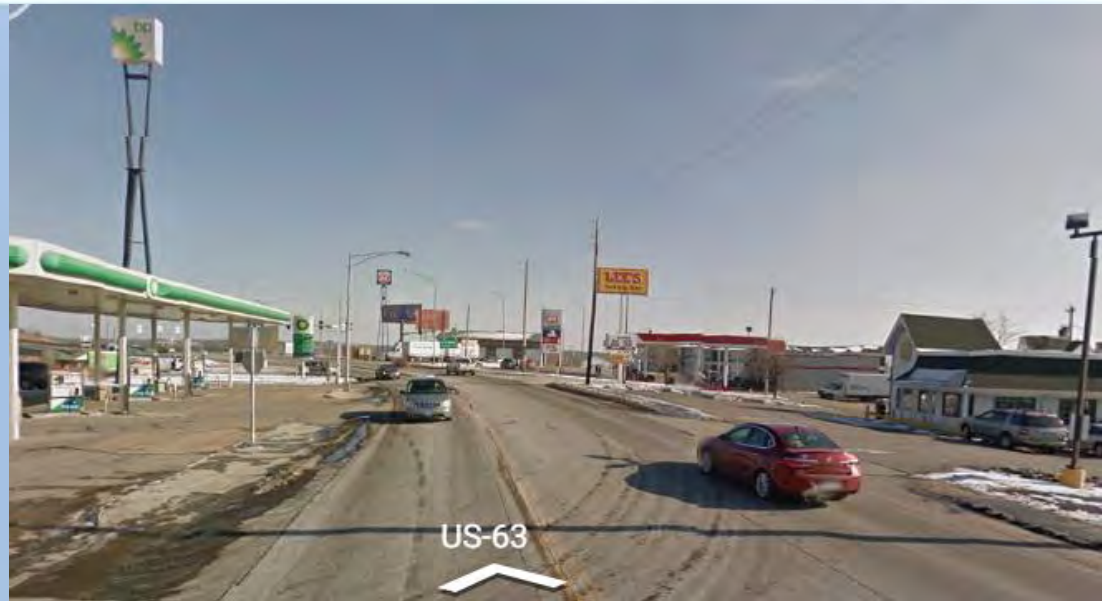
Existing Conditions

- Safety
 - Vehicular
 - Pedestrian & Bicycle
 - Security



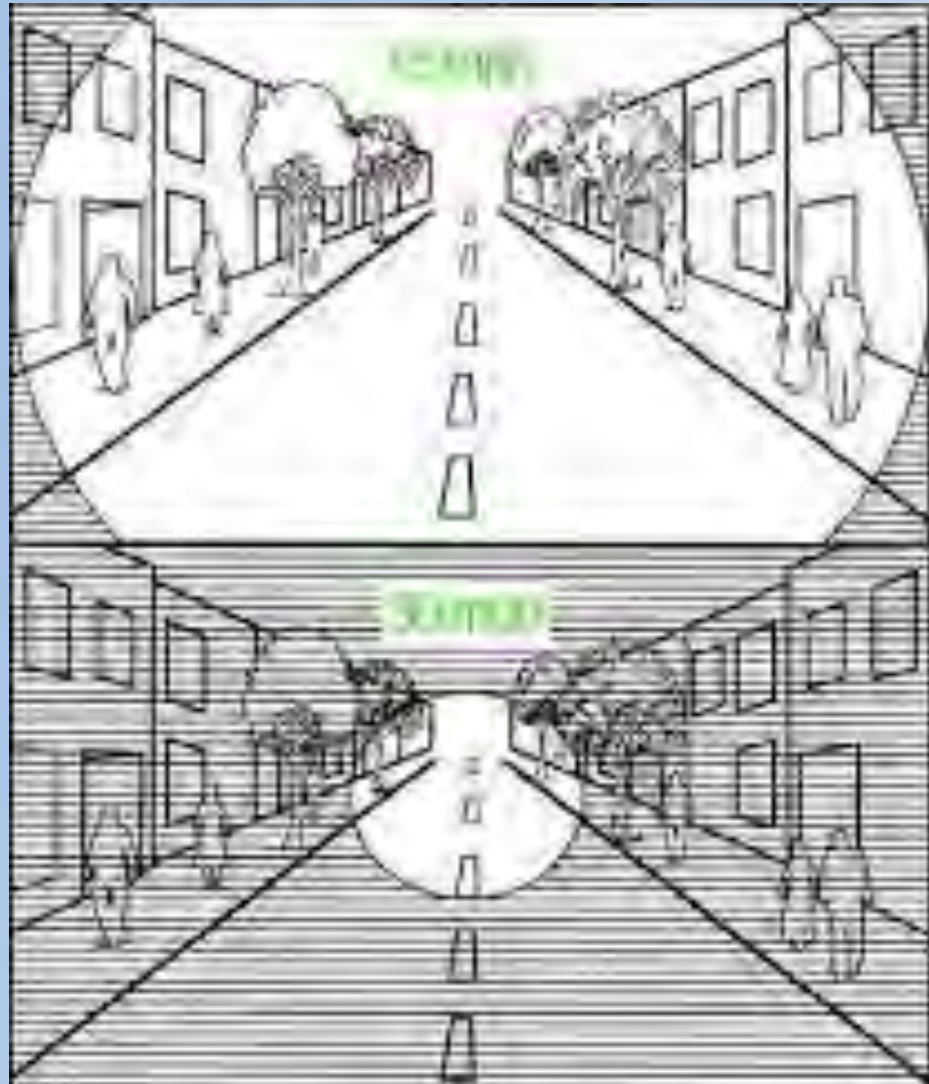
Existing Conditions

- Economic Development Component
 - Vehicular
 - Pedestrian & Bicycle
 - Security



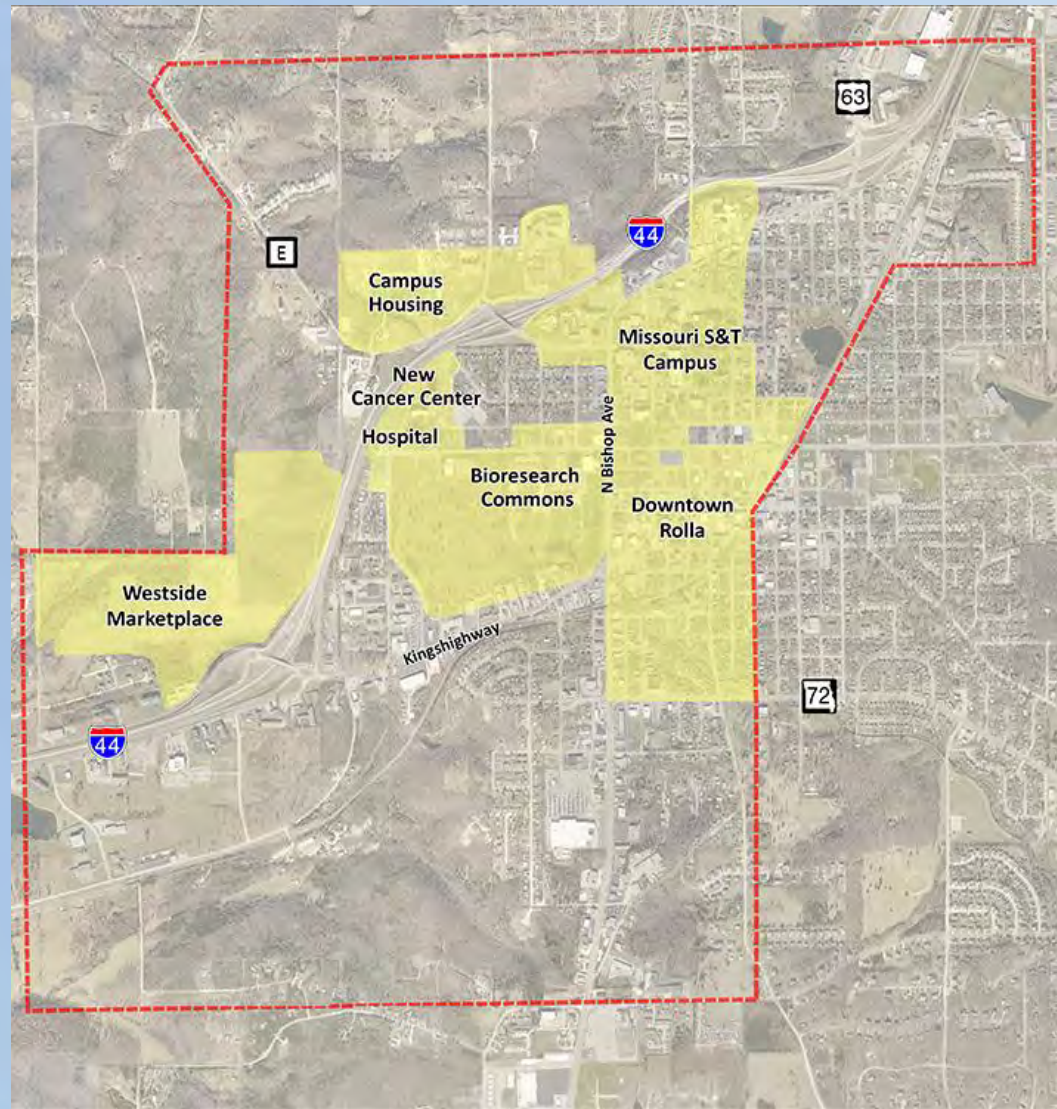
Existing Conditions

- Economic Development Component



Existing Conditions

- Land Use
- Existing
 - Major Generators
 - Local vs. Regional
- Planned
 - Westside Development
 - New Cancer Center
 - University Master Plan
- Future
 - City growth
 - Downtown



Future Conditions

Background Traffic

- MoDOT Historical 2000-2013
 - 0.1% annually

- Woods & Poole Economic Data (Rolla MSA/Phelps Co.)

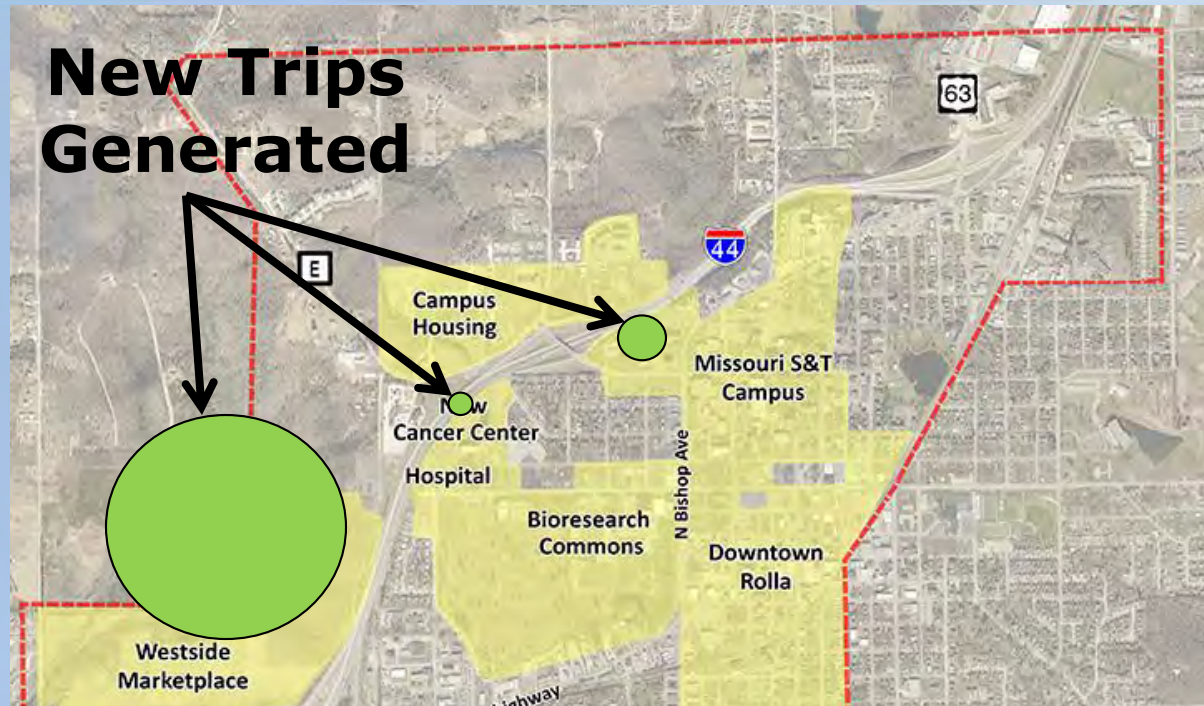
2000-2013

- Population - 0.97%
- Employment - 0.47%

2014 – 2040 forecast

- Population – 0.60%
- Employment – 0.80%

New Trips Generated

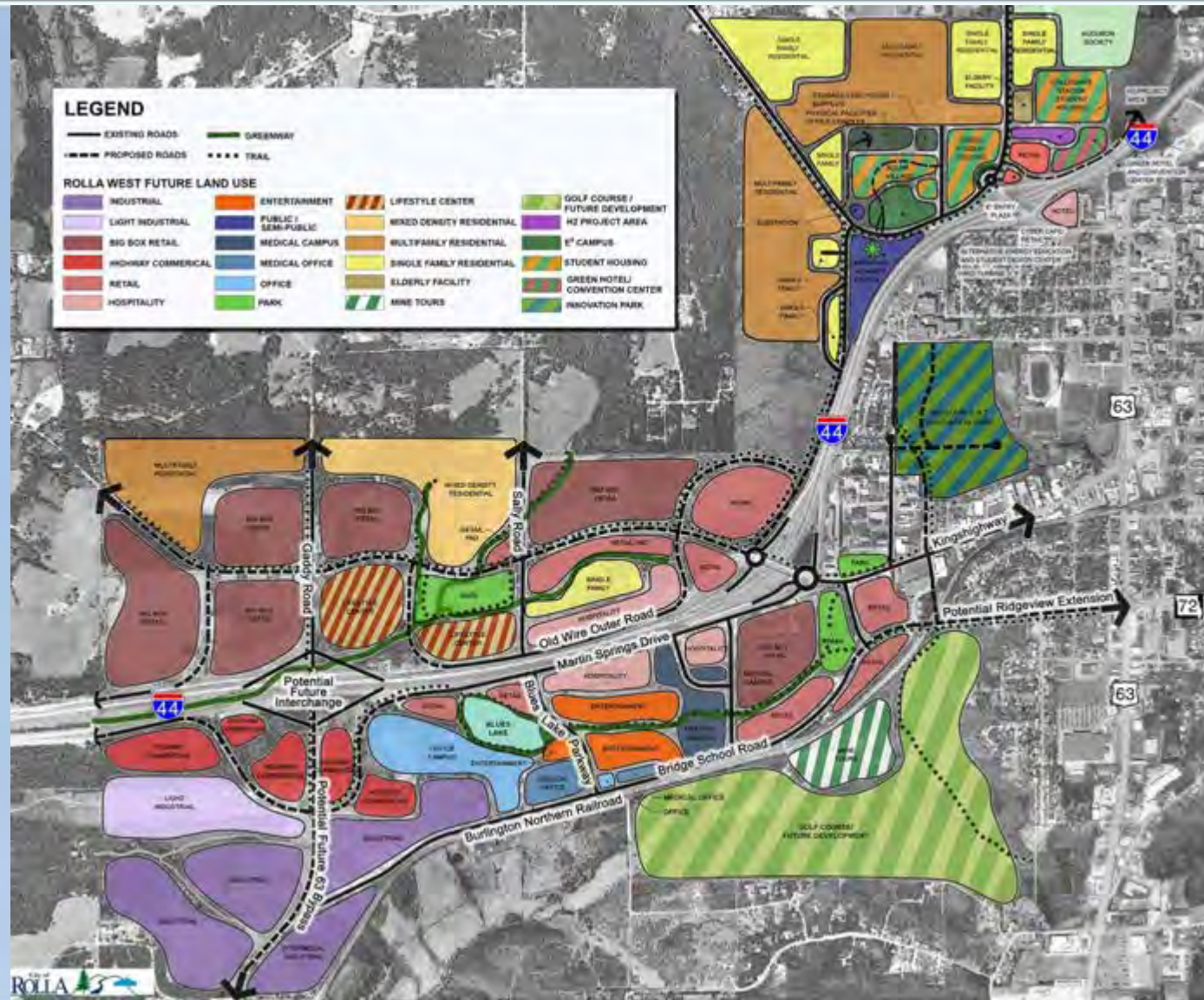


Special Generators Trip Generation

Land Use		Daily	AM	PM
University	450 students	1,444	25	204
Cancer Center	37k sq. ft. / 4 FT doctors	1,164	15	15
Marketplace	450k sq. ft.	15,813	328	1,344
Total		18,421	368	1,563

Rolla West Master Plan

- Rolla West Master Plan
- E3 Campus Development Plan



Existing Land Use

Comprehensive Plan Land Use 2010



Legend

Residential

- Single-Family
- Duplex
- Multi-Family

Commercial

- Commercial/Retail
- Office
- Manufacturing/Distribution

Public/Institutional

- Public
- Semi-Public/Church
- Park & Open Space

City Limits

This map was developed by the
Community Development Department
and prepared by the Department of
Public Works, GIS Mapping Division
Map revision date: October 12th, 2010

0.5 0 0.5 Miles



Westside Marketplace

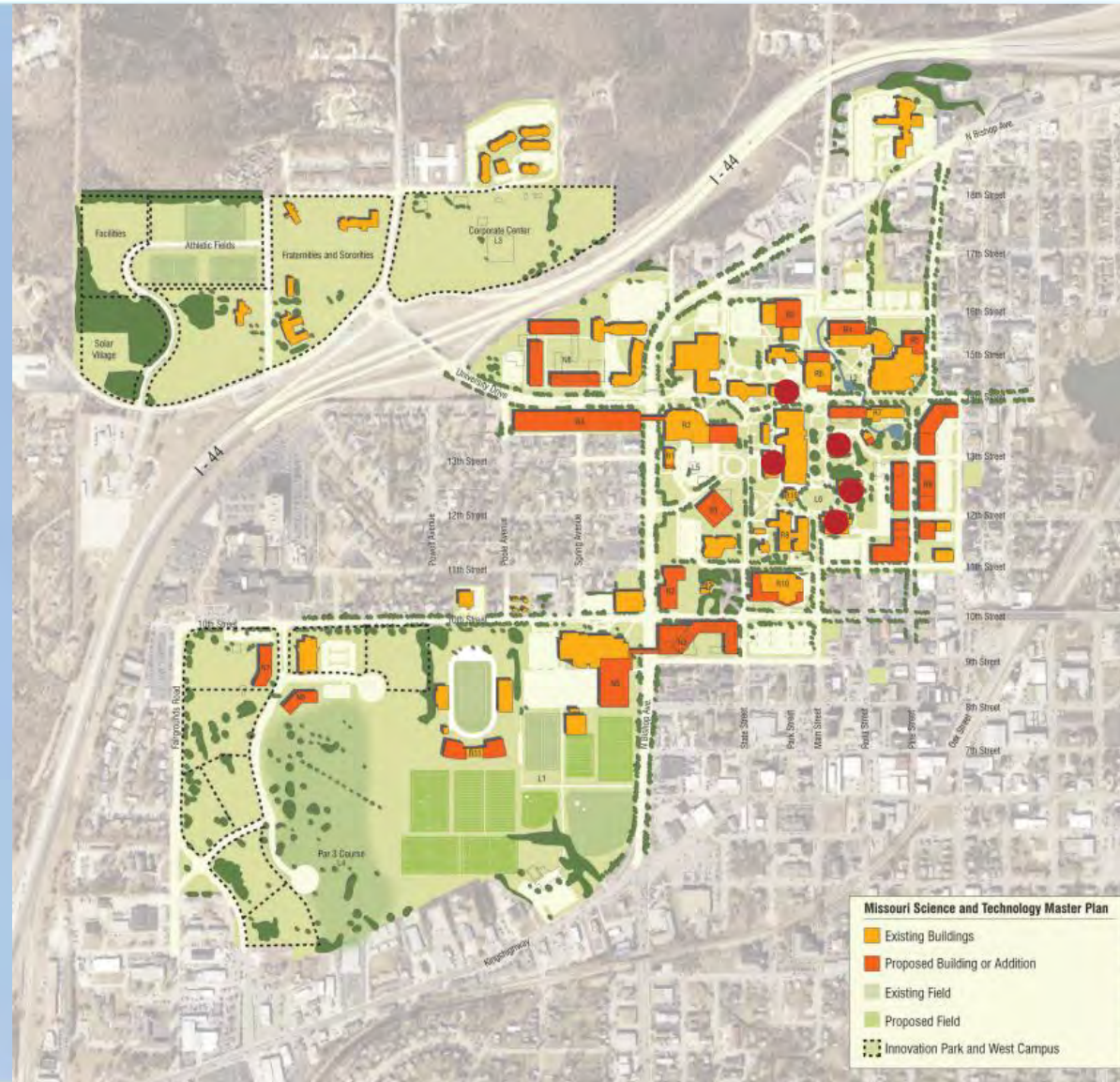
Regional Transportation Plan

- Interstate
- Existing Road
- Proposed Road
- Potential Roundabout
- Proposed Multi-Modal Loop
- Railroad
- Development Site



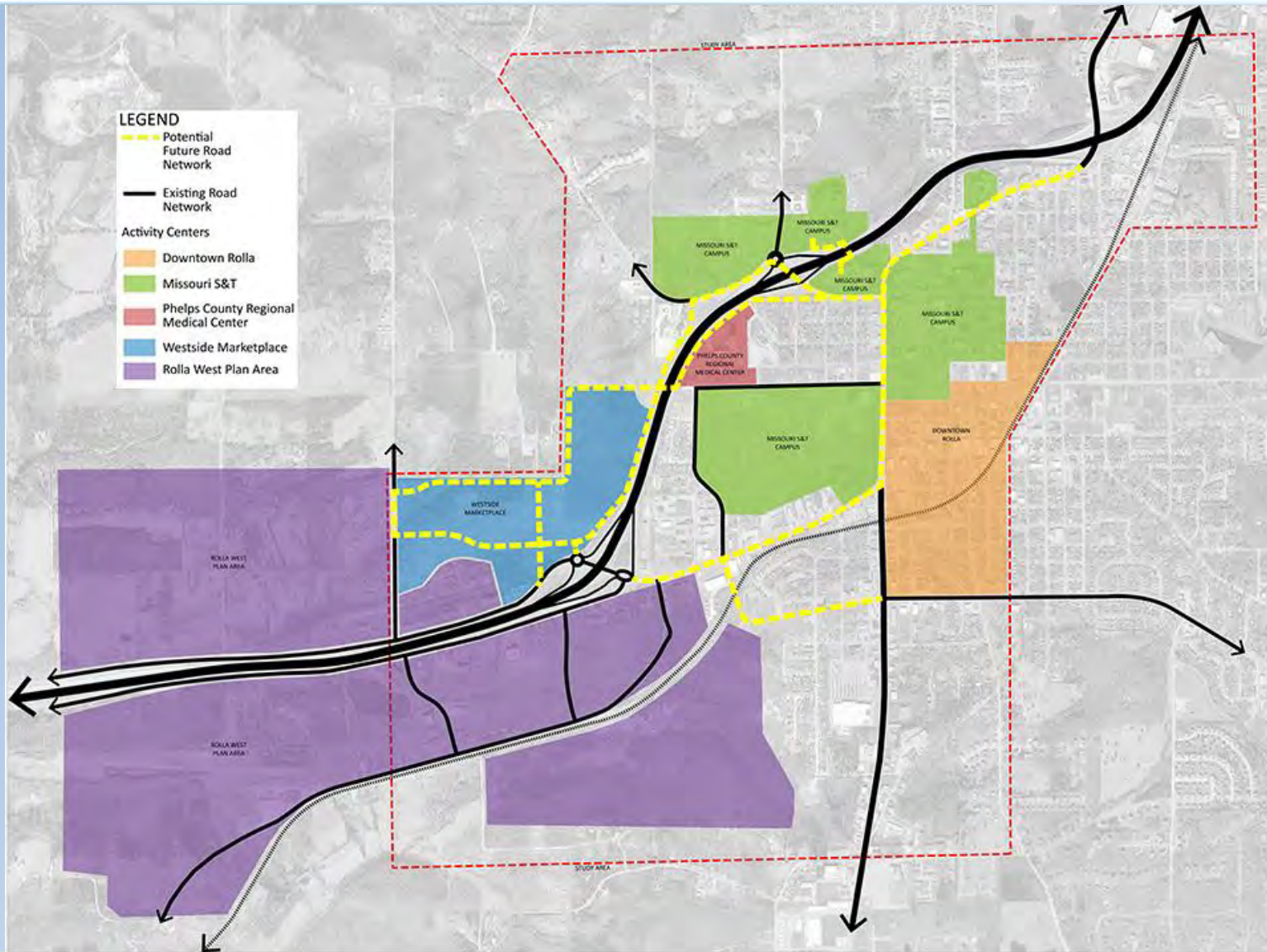
Missouri S&T Master Plan

- Major Elements
 - The campus is divided by Bishop Avenue and I-44.
 - The main campus entry for both pedestrians and automobiles is not currently well defined.



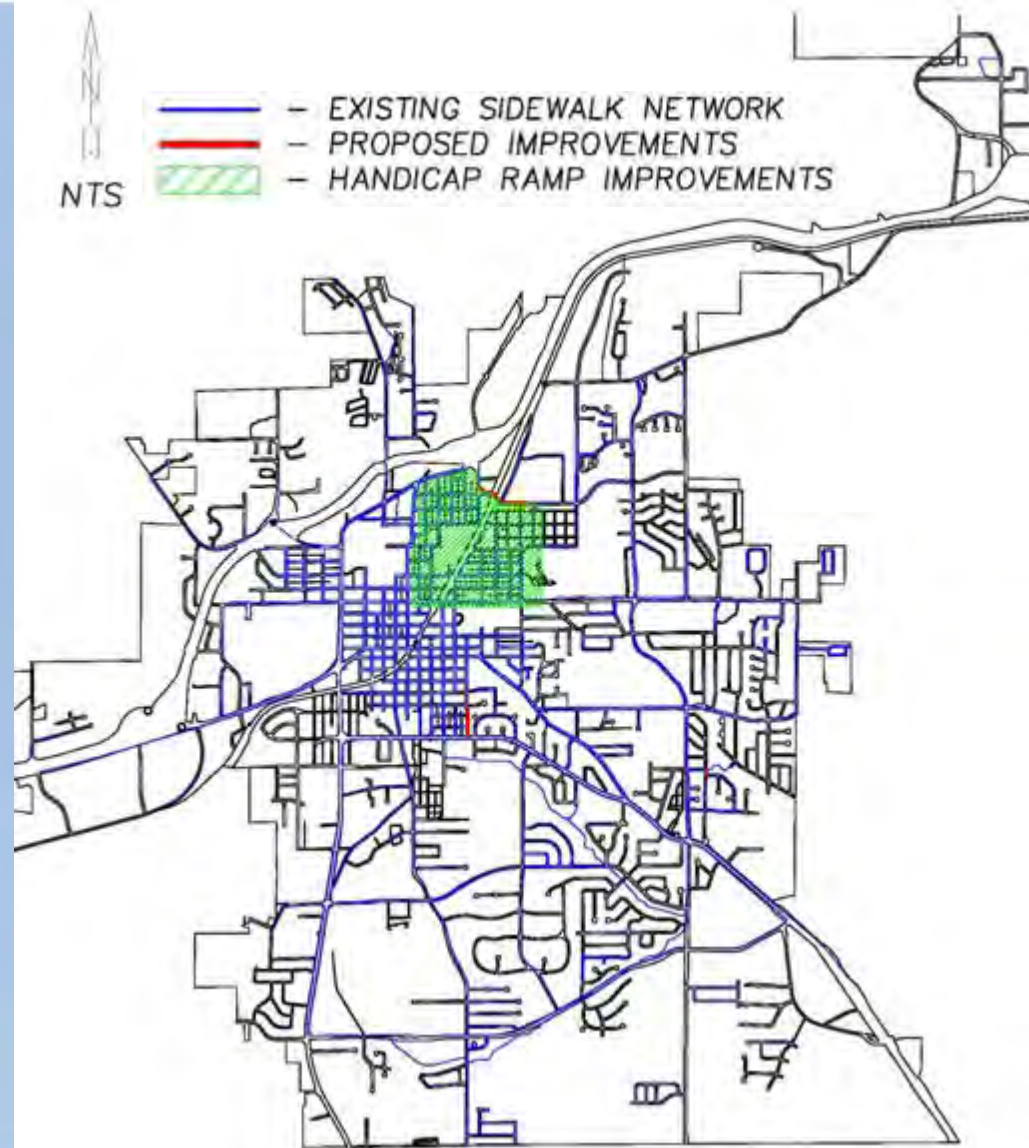
Consolidated Plans

- Enhanced multimodal connections needed to maximize development potential and quality of life needs



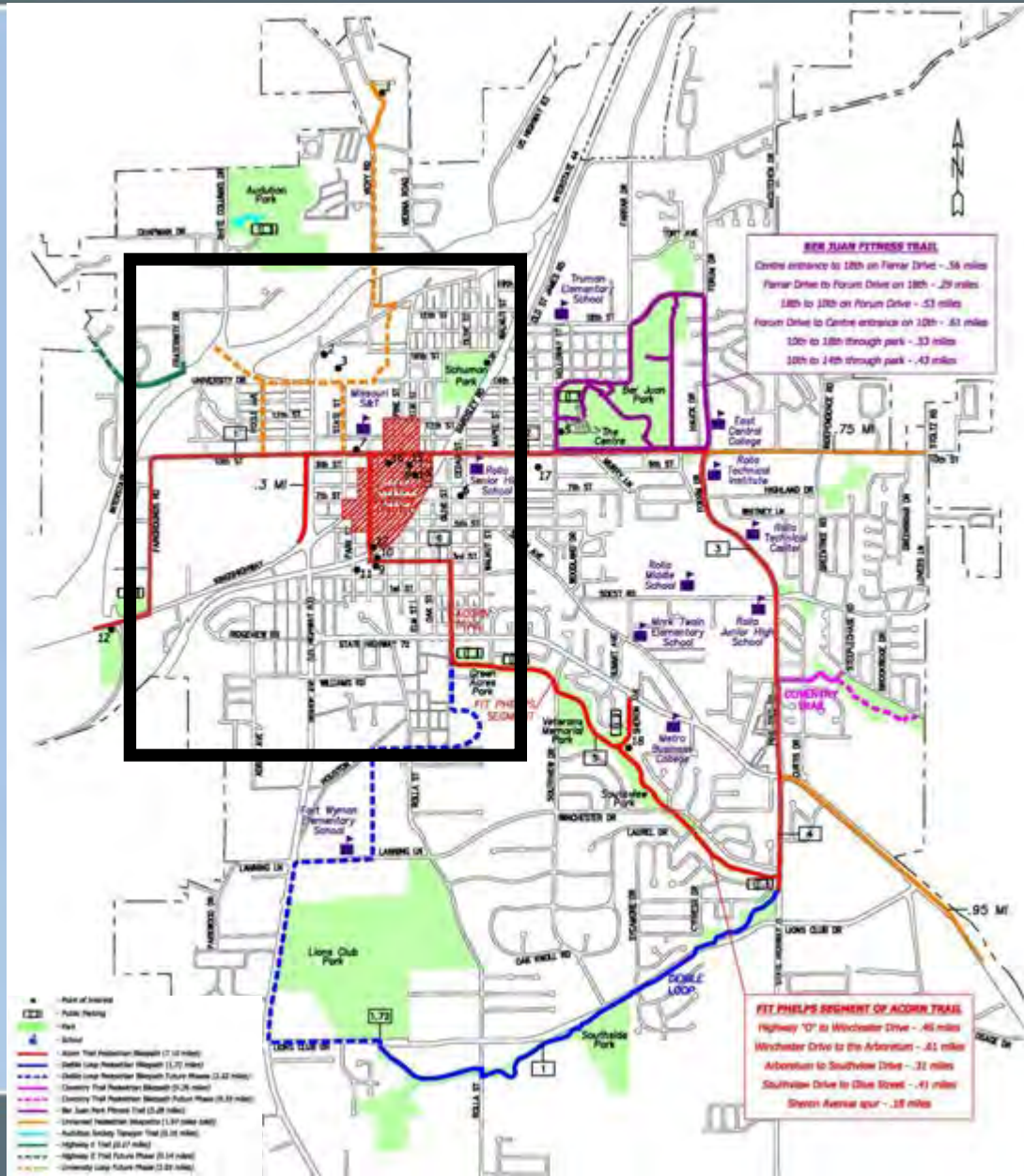
Sidewalk Improvements

- FY2014-2015



Pedestrian and Bicycle Trails

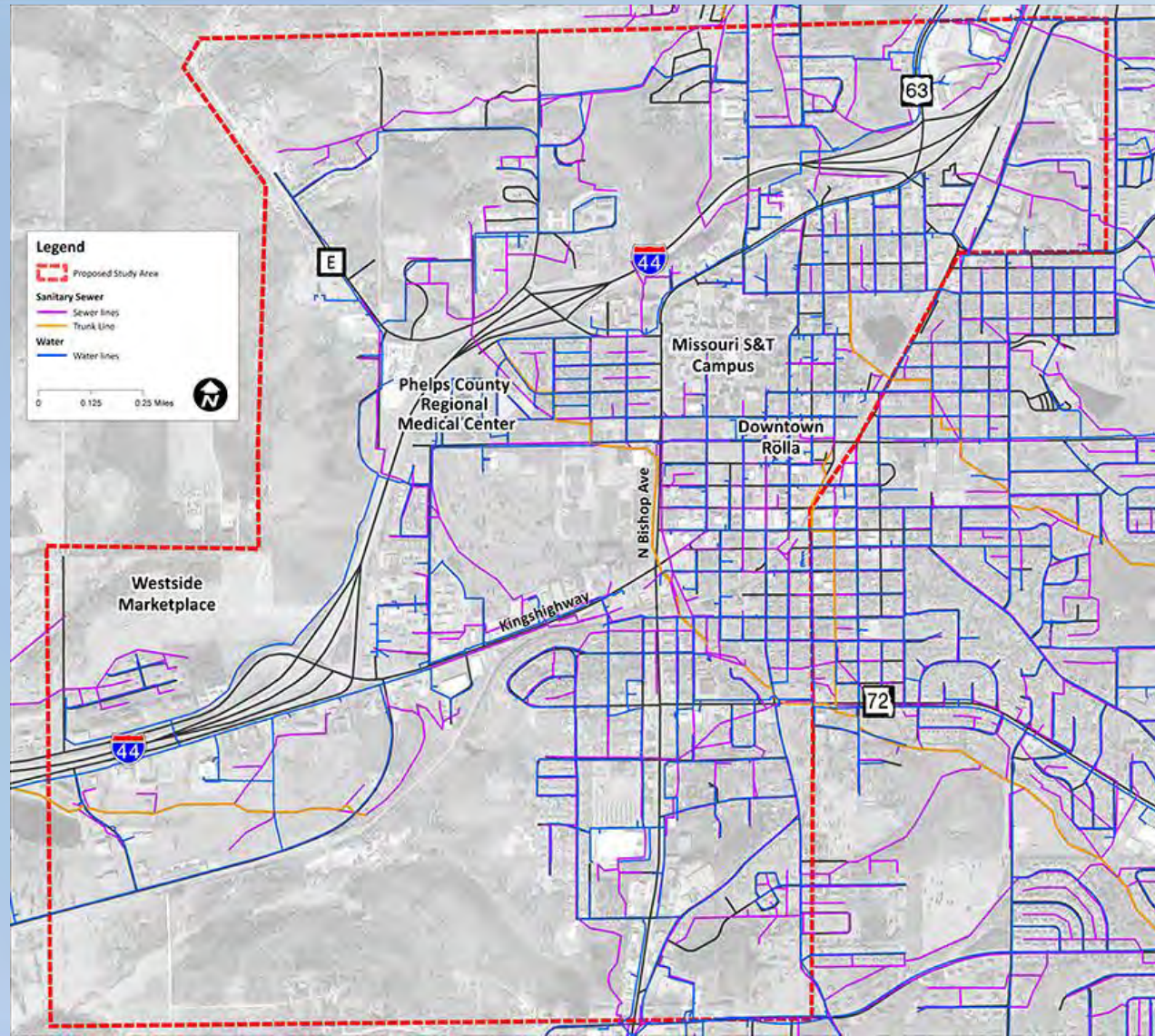
- To date, the City of Rolla has received 9 grants to build pedestrian and bike paths.
- Visitor Center on Bridge School Road to the Missouri S&T Golf Course.
- Acorn Trail loop through the central portion of town.
- Pedestrian and bike path on Highway 72 and 10th Street.
- The Deible Loop and Coventry Trail bring the network to 11 miles.



Existing Utilities

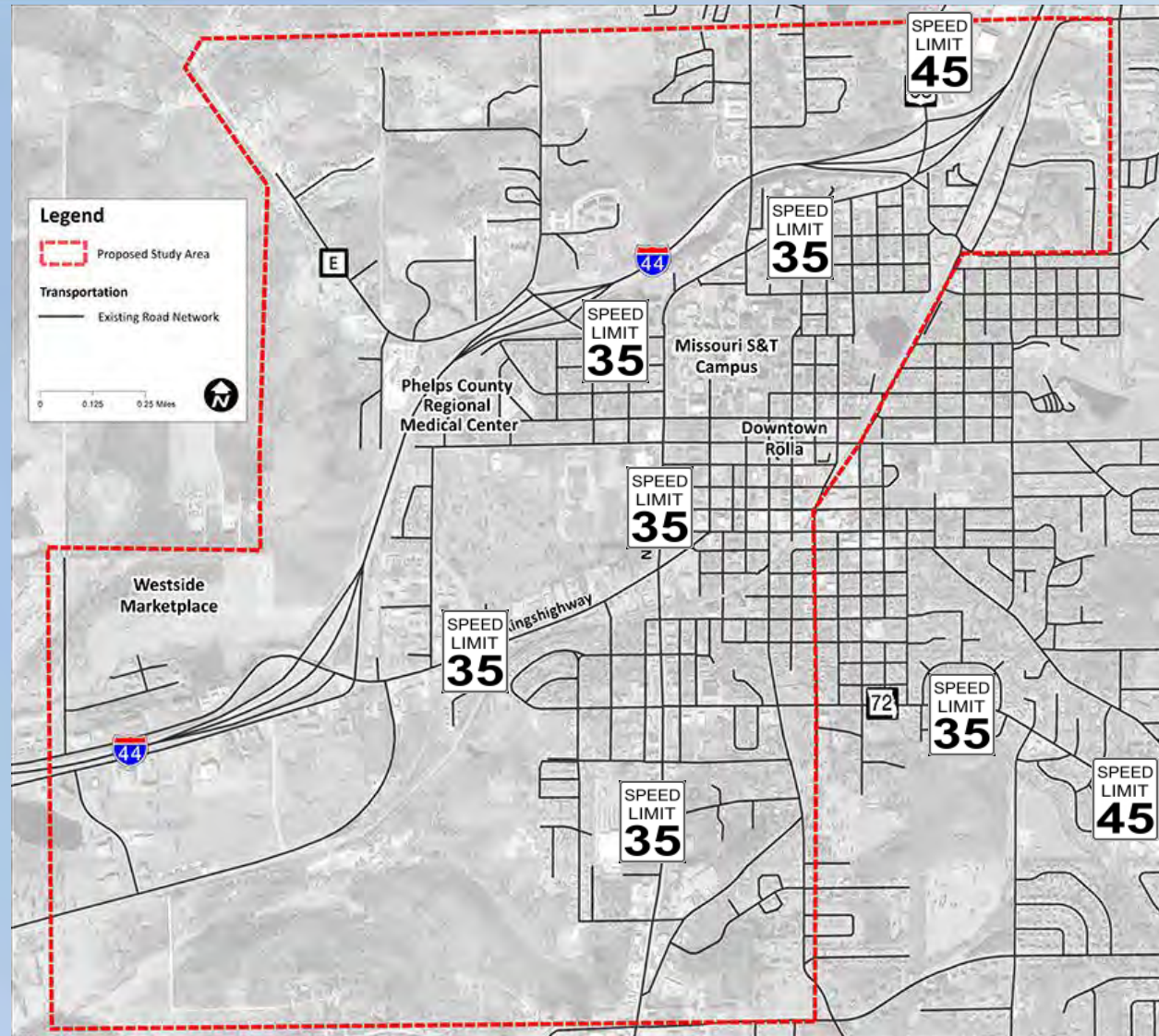
Westside Marketplace
has access to existing
utilities including
sewer and water

Electric service (?)



Existing Road Network

- Lack of convenient multimodal connections to and from north of I-44 and Rolla West
- US 63/Bishop Avenue serves as a barrier dividing the Missouri S&T Campus and major activity centers



Existing Conditions

- Key Issues

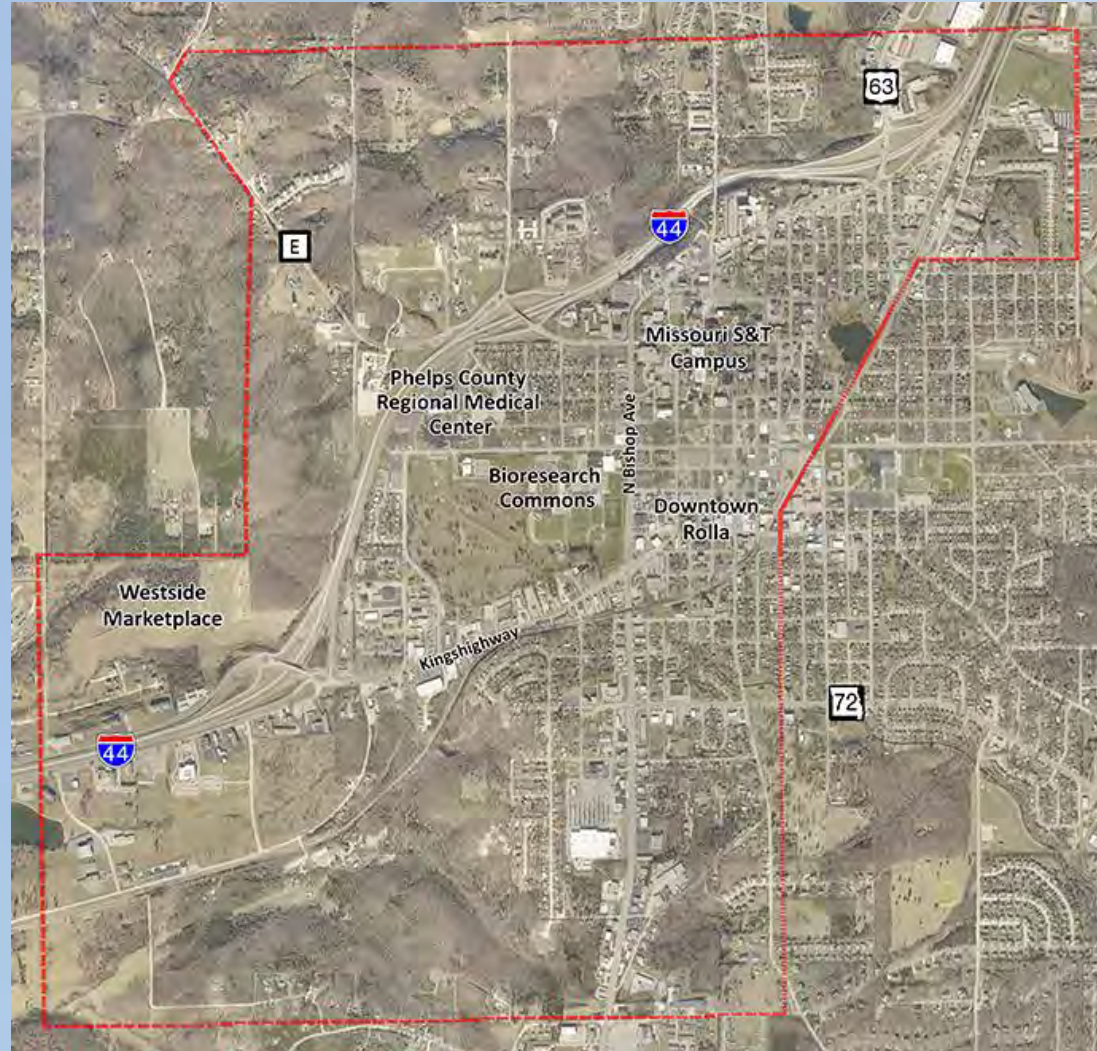
- Bishop Avenue is “Main Street” and provides a first impression of the community.
- I-44 serves as a physical barrier
- The speed and volume of vehicular and truck traffic on US 63 (Bishop Avenue) through town provides a “barrier”.
- Safety along Bishop Ave (motorist and pedestrians)
- Heavy volumes at Kingshighway, US 63 & US 72
- Heavy volumes and access problems along Kingshighway.
- Limited Rolla West transportation infrastructure

Future Conditions

- Opportunities
 - Corridor enhancements, gateways, etc.
 - Redevelopment opportunities
 - Improve connections to the University, Hospital, Westside Marketplace
 - Promote walkability, bikeability & transit
 - Support Campus Master Plan & Hospital Master Plan
 - Support a healthier lifestyle in the City
 - Bypass of through vehicular and truck traffic

Initial Concepts

- Concepts
 - Complete streets
 - New infrastructure
 - Improved pedestrian and bicycle mobility
 - Improved safety
 - Improved capacity
 - Improved access
 - Road diets
 - Alternative routes
 - Aesthetics



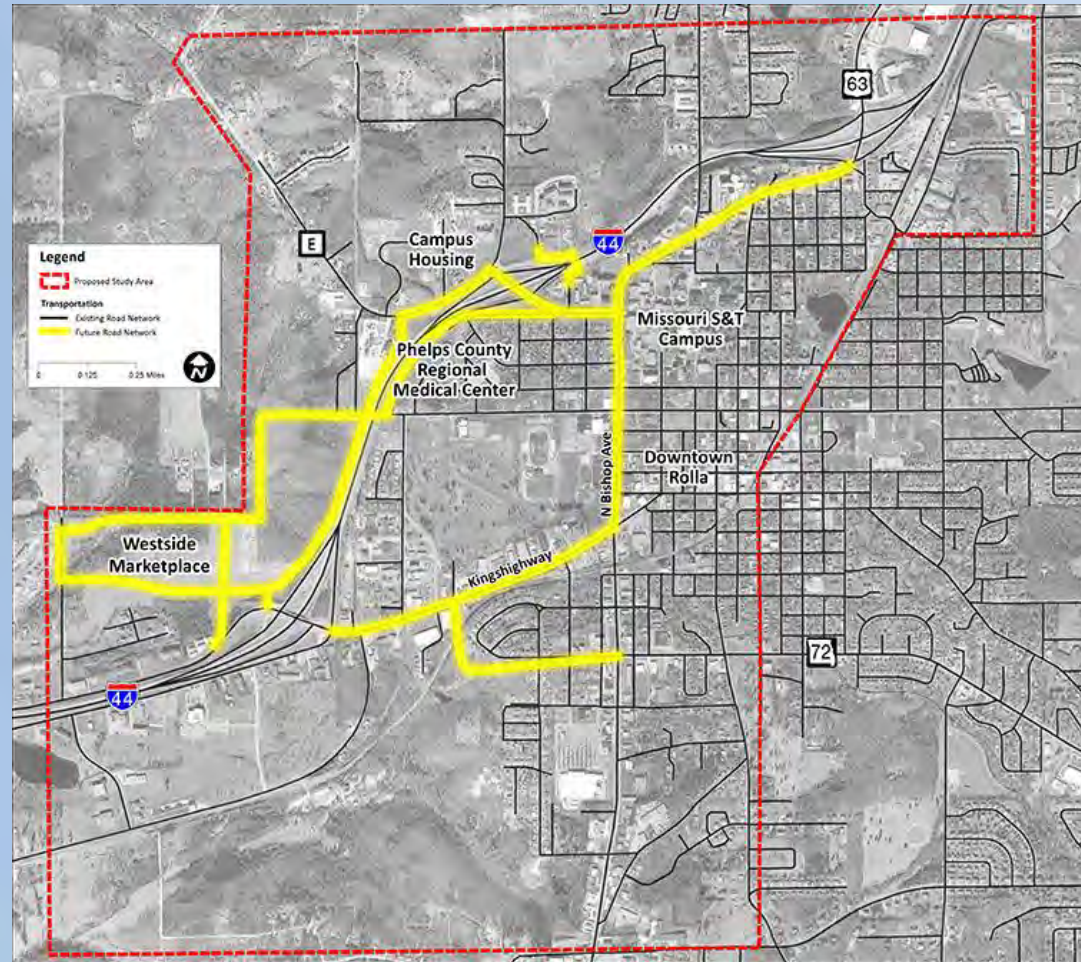
What is a Complete Street?

- Promotes safety and use of all modes
 - Walkability
 - Bikeability
 - Vehicular
 - Transit
- Public Health
- Aesthetics
- Sense of place
- Stronger local economies
- Additional public space



Potential Projects

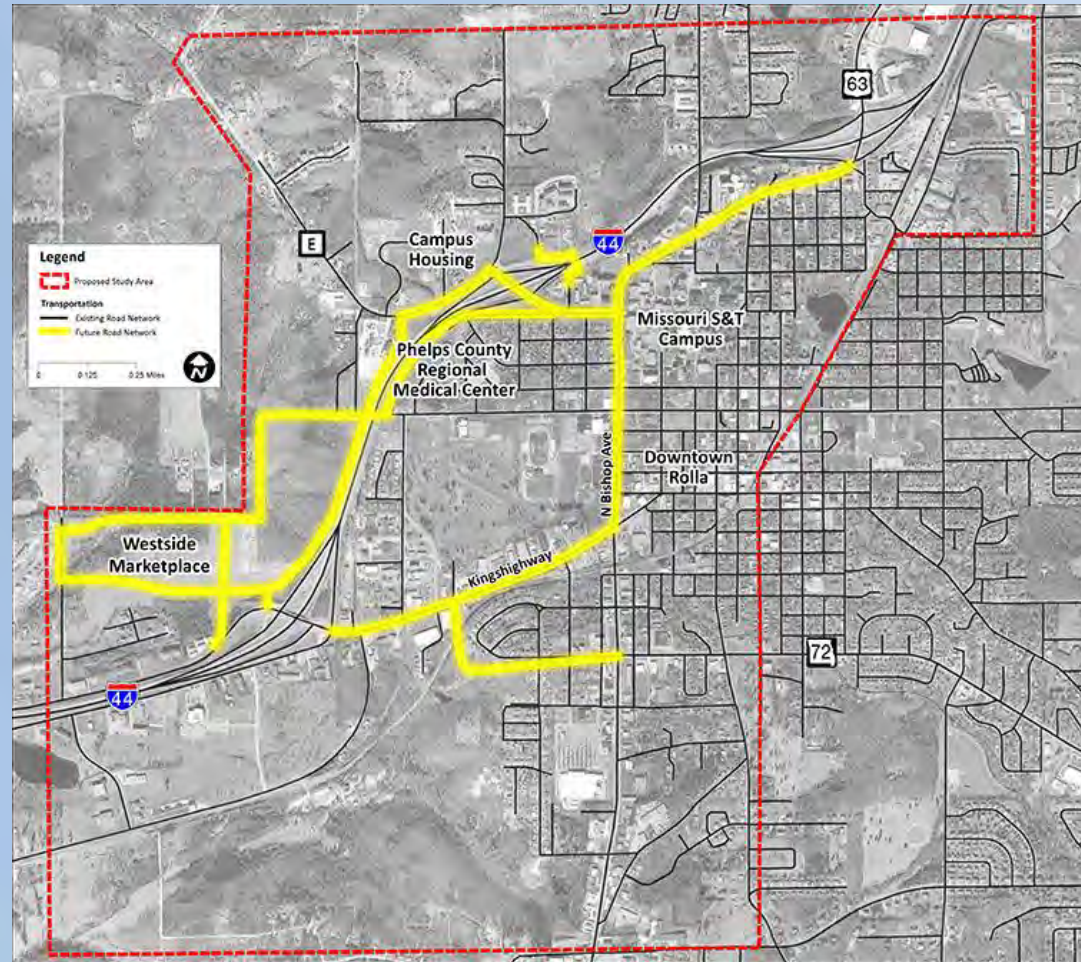
- Kingshighway improvements from I-44 to US 63
- Bishop Avenue Complete Street from I-44 to Kingshighway
- 10th Street Overpass over I-44
- Hospital Access Road to University Drive
- 72 Bypass from Bryant Drive to US 63/72
- I-44 pedestrian overpass east of University Drive Interchange
- Westside Marketplace Outer Road



How will these projects get prioritized?

Other Improvements

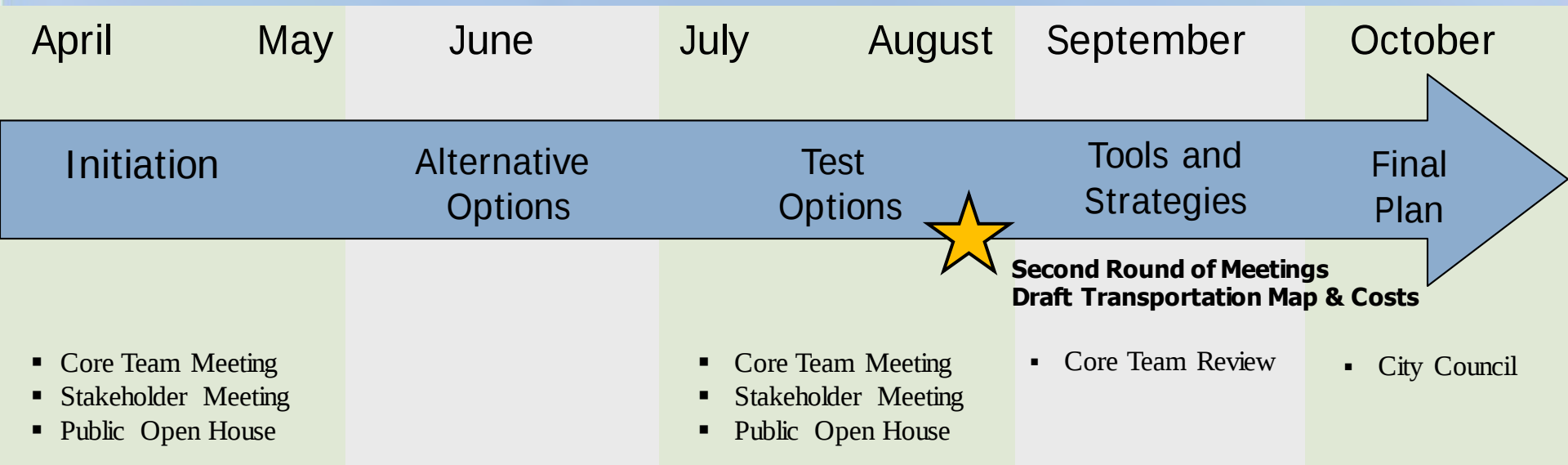
- Pine Street complimentary to Bishop
- Pine Street / Rolla Street pair
- Downtown circulation (1-way vs. 2-way)
- Other bike/pedestrian improvements
- Sidewalk improvements
- Neighborhood greenways
- Transit improvements
- Aesthetics / Gateway improvements / Lighting



What other improvements should be considered?

Next Steps

- Second Core Team, Stakeholder & Public Meetings
 - Review initial concepts
 - Provide feedback on initial concepts
 - Discuss preliminary recommended strategy



MoveRolla

TRANSPORTATION STRATEGY

APPENDIX A.2

AUGUST 20, 2015 PRESENTATION



Rolla Transportation Strategy

Move Rolla

Concept Analysis and Recommendations

Presentation to
Project Core Team:

City of Rolla

MoDOT

Missouri University of Science & Technology

Phelps County Regional Medical Center

Westside Marketplace

August 20, 2015

Meeting Agenda

- Project Overview
 - Process & Schedule
 - Vision & Goals
- Existing Conditions Summary
- Future Transportation Network
- Analysis
 - Mobility, Safety, Land Use, Modal trade-off's, Connectivity
 - Engineering
 - Feasibility, Costs
 - Evaluation Matrix
- Recommendations
 - Prioritization
- Next Steps

Process & Schedule

April May June July August September October

Initiation

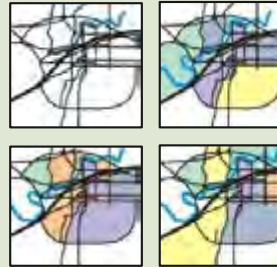
- Data Collection
- Issues
- Analysis
- Vision
- Goals
- Objectives
- Initial Concepts
- Project Priorities
- Define TDD
- Draft TDD Petition

Alternative Options



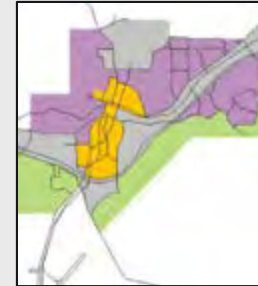
- Identify Options
- Solicit Feedback
- City and County resolutions to pass TDD petition

Test Options



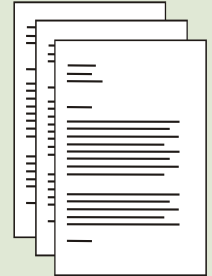
- Evaluate Options
- Identify Preferred Concepts
- Submit draft recommended improvements

Tools and Strategies



- Preferred Plan
- Cost Estimates
- Phasing
- Implementation

Final Strategy



- TDD Election December 2015

Information



Ideas

Analysis



Solutions



Actions

1st Round of Meetings

2nd Round of Meetings

We are Here

- Core Team Meeting
- Stakeholder Meeting
- Public Open House

- Core Team Meeting
- Stakeholder Meeting

- Open House
- City Council

Project Overview

- The Rolla Daily News Headlines Exercise

- *City unveils new Transportation Plan to welcome Westside Development*
- *City unveils a Complete Street for Bishop Avenue*
- *Summary of primary themes*

- Pedestrian safety
- Economic
- Residents and students
- Improved safety
- Business loop
- Adding alternate routes
- Gateway
- City-wide complete streets
- Traffic calming on Bishop Avenue
- Congestion mitigation
- Better access to the hospital, University and Downtown
- Encourage growth – “550 Plan, 5 year plan for the next 50 years”
- Do not want to make Bishop a parking lot – make sure improvements address all users including through traffic with adequate bypass.
- Multimodal approach

Project Overview

- Vision

- Develop a transportation system that meets the needs of all people and modes and promotes a safe, healthy community and economic opportunities for the next 20 years.

- Goals

- Develop a safe and convenient transportation environment
- Promote alternative mobility choices
- Develop a transportation system that promotes economic opportunities
- Creates a sense of place

Existing Conditions Summary

Mobility

Demand

- Heaviest vehicle demand along US 63 intersections are 10th Street, Kingshighway, Highway 72
- Heaviest pedestrian demand along US 63 is at 10th Street
- US 63 (Bishop) truck traffic is 12%

Level of Service

- US 63 (Bishop) from Pine to I-44
- Kingshighway

US 63 (Bishop) O/D's (Through Traffic)

- 345 NB AM, 693 NB PM
- 473 SB AM, 481 SB PM

Bicycle & Pedestrian

- Walkscore is 36 out of 100

Transit

- Ebus electric bus campus route

Existing Conditions Summary

Safety

Total Accidents

- US 63 (Bishop) represents 66% of total arterial crashes
- On average, a crash occurs every 5 days along US 63 (Bishop)
- US 63 (Bishop) crash rate is 2.7 times above statewide average

Pedestrian Accidents

- US 63 (Bishop) represents 50% of the total pedestrian crashes
- High accidents on Bishop between University and Kingshighway

Auto / Pedestrian Accidents

Speed / Physical Injury Likelihood

- Disabling injury occurs between 25 – 40 mph
- Death occurs above 40 mph

Existing Conditions Summary

Other Issues

Economic Development

- Stable growth

Land Use

- Mixed Use

Relevant Studies

- Rolla West
- Campus Master Plan
- Hospital Master Plan

Other

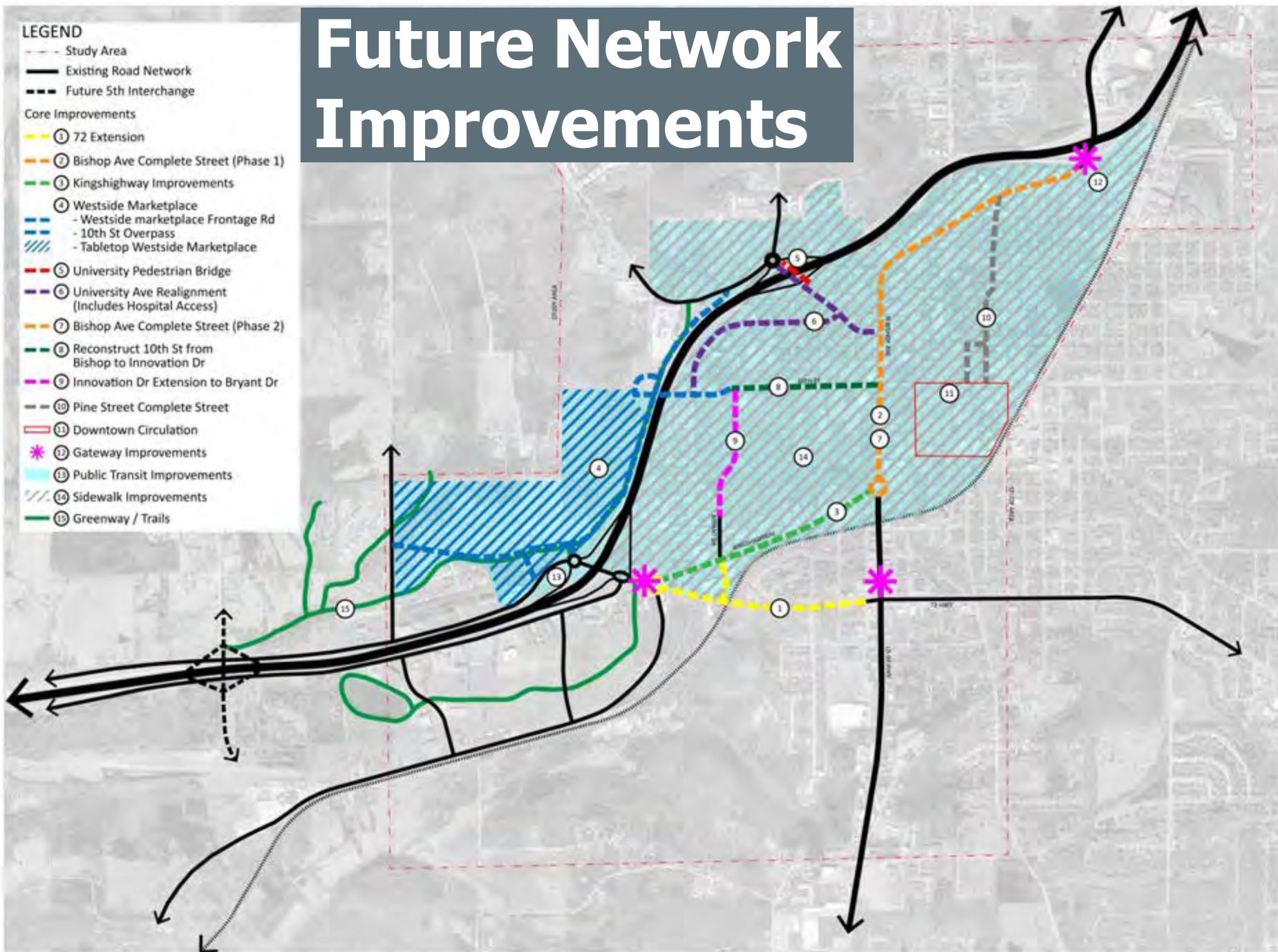
- Bishop Avenue is “Main Street” and provides a first impression of the community.
- I-44 serves as a physical barrier
- The speed and volume of vehicular and truck traffic on US 63 (Bishop Avenue) through town provides a “barrier”.

- Safety along Bishop Ave (motorist and pedestrians)
- Heavy volumes at Kingshighway, US 63 (Bishop) & US 72
- Heavy volumes and access problems along Kingshighway
- Limited Rolla West transportation infrastructure

Future Network Improvements

LEGEND

- Study Area
- Existing Road Network
- - - Future 5th Interchange
- Core Improvements**
- ① 72 Extension
- ② Bishop Ave Complete Street (Phase 1)
- ③ Kingshighway Improvements
- ④ Westside Marketplace
 - Westside marketplace Frontage Rd
 - 10th St Overpass
 - Tabletop Westside Marketplace
- ⑤ University Pedestrian Bridge
- ⑥ University Ave Realignment (Includes Hospital Access)
- ⑦ Bishop Ave Complete Street (Phase 2)
- ⑧ Reconstruct 10th St from Bishop to Innovation Dr
- ⑨ Innovation Dr Extension to Bryant Dr
- ⑩ Pine Street Complete Street
- ⑪ Downtown Circulation
- * ⑫ Gateway Improvements
- ⑬ Public Transit Improvements
- ⑭ Sidewalk Improvements
- ⑮ Greenway / Trails



72 Extension

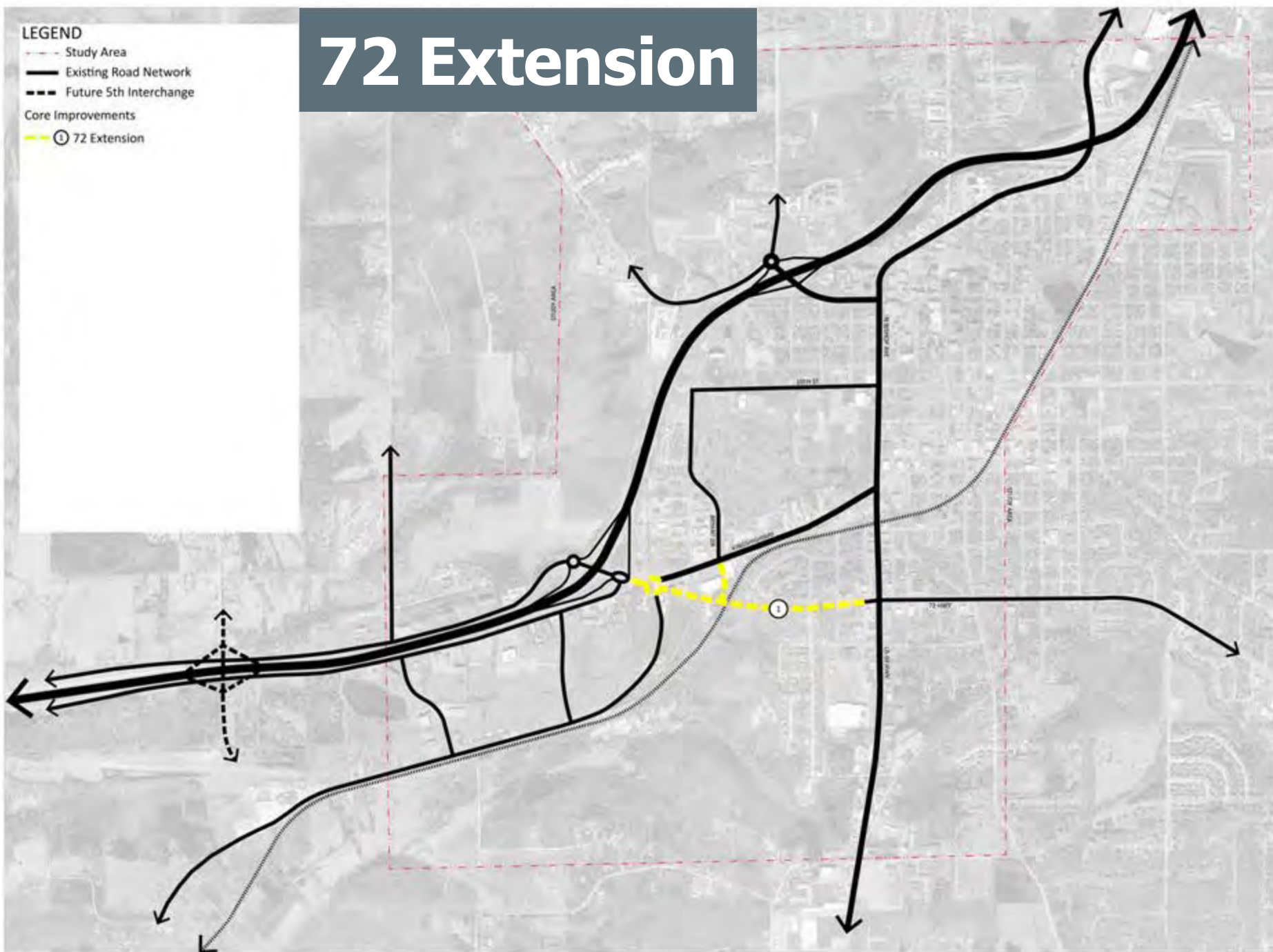
LEGEND

Study Area

— Existing Road Network
--- Future 5th Interchange

Core Improvements

① 72 Extension



72 Extension

- Extends the 4-lane Highway 72/Ridgeview Road west tying into the I-44/Kingshighway interchange
- Provides significant congestion relief along Bishop Avenue and Kingshighway by providing a US 63/72 bypass for through traffic
- This concept was included in the US 63 Bypass Environmental Impact Statement (EIS) Record of Decision in 2002
- Future connection to Bryant Road and other connections would need to be determined (not included in initial project)

Bishop Avenue Complete Street (Phase 1)

LEGEND

- Study Area
- Existing Road Network
- Future 5th Interchange

Core Improvements

- ① 72 Extension
- ② Bishop Ave Complete Street (Phase 1)



Bishop Avenue (Phase 1)

- Interim improvements that do not require major geometric modifications:
 - Improved pedestrian signal timing
 - Improved signage and wayfinding
 - Access management strategies and policies
 - Walnut improvements
 - Aesthetic improvements
 - Bollards/cycle track on outside lane(s) as a possible demonstration project

Cycle Track



Kingshighway Improvements

LEGEND

Study Area

Existing Road Network

Future 5th Interchange

Core Improvements

① 72 Extension

② Bishop Ave Complete Street (Phase 1)

③ Kingshighway Improvements



Kingshighway Improvements

- Improve Kingshighway to a 3-lane roadway with focused median islands with left turn lanes between I-44 and US 63.
- Includes 6-foot sidewalks on both sides of the road.
- Roundabouts at Bishop (US 63) and the intersection of Highway 72 bypass, Bridge School Road and Kingshighway.

Westside Marketplace

LEGEND

- Study Area
- Existing Road Network
- Future 5th Interchange
- Core Improvements
 - ① 72 Extension
 - ② Bishop Ave Complete Street (Phase 1)
 - ③ Kingshighway Improvements
 - ④ Westside Marketplace
 - Westside marketplace Frontage Rd
 - 10th St Overpass
 - Tabletop Westside Marketplace



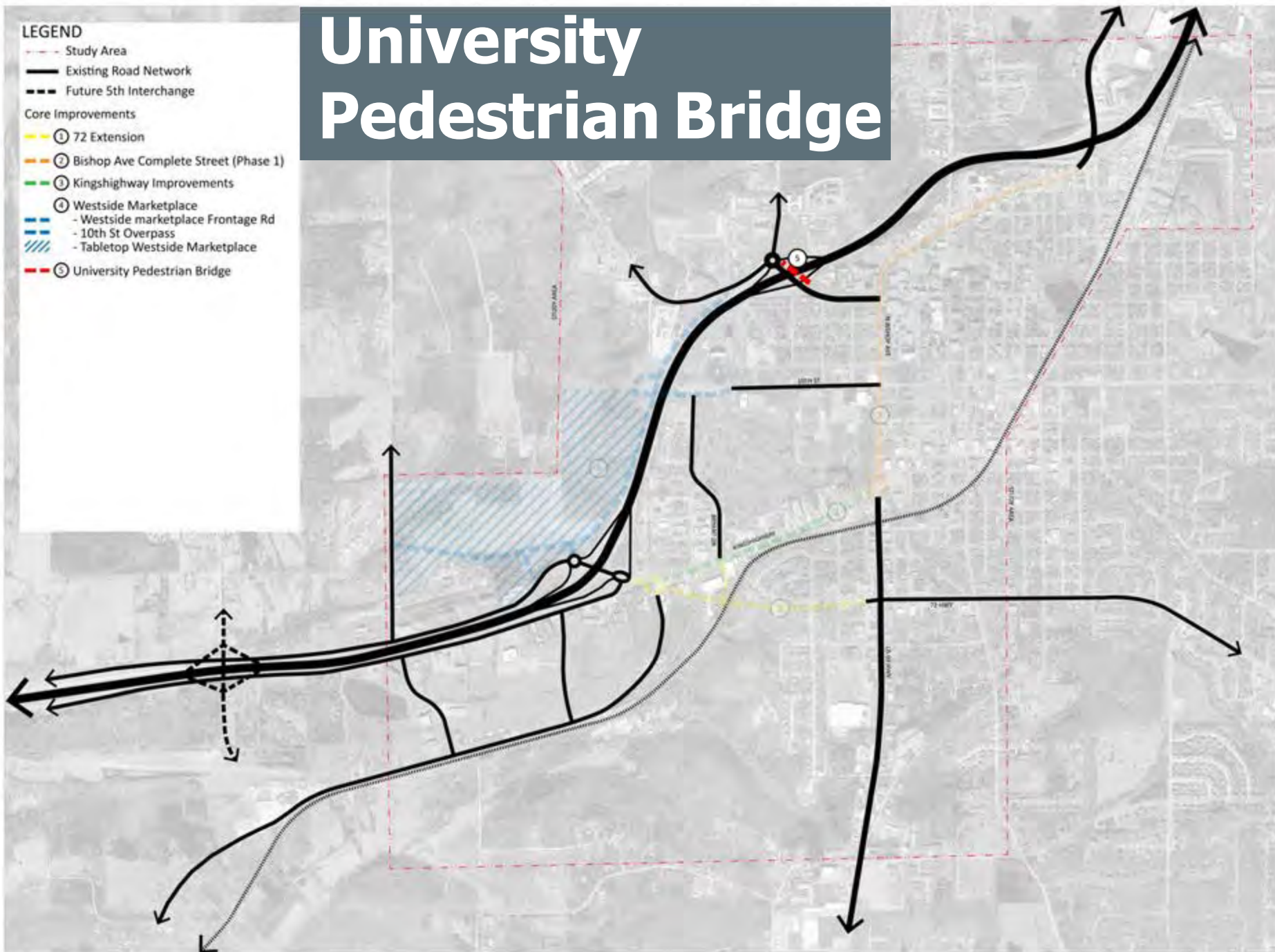
Westside Marketplace

- Grading of Westside Marketplace
- Westside Marketplace Frontage Road
 - New 2-lane frontage road with left turn lanes connecting Missouri E/University Drive to the Westside Marketplace, Sally Road and the I-44/Kingshighway Interchange.
 - Includes a 10-foot bike/hike trail on one side of the road.
- 10th Street Overpass
 - New 2-lane overpass providing a direct connection to the Westside Marketplace.
 - The overpass will flyover I-44 and connect to the Westside Marketplace frontage road.
 - Includes a 10-foot bike/hike trail on one side of the road.
 - Could be extended over to Sally Road in the future.

University Pedestrian Bridge

LEGEND

- Study Area
- Existing Road Network
- Future 5th Interchange
- Core Improvements
 - ① 72 Extension
 - ② Bishop Ave Complete Street (Phase 1)
 - ③ Kingshighway Improvements
 - ④ Westside Marketplace
 - Westside marketplace Frontage Rd
 - 10th St Overpass
 - Tabletop Westside Marketplace
 - ⑤ University Pedestrian Bridge



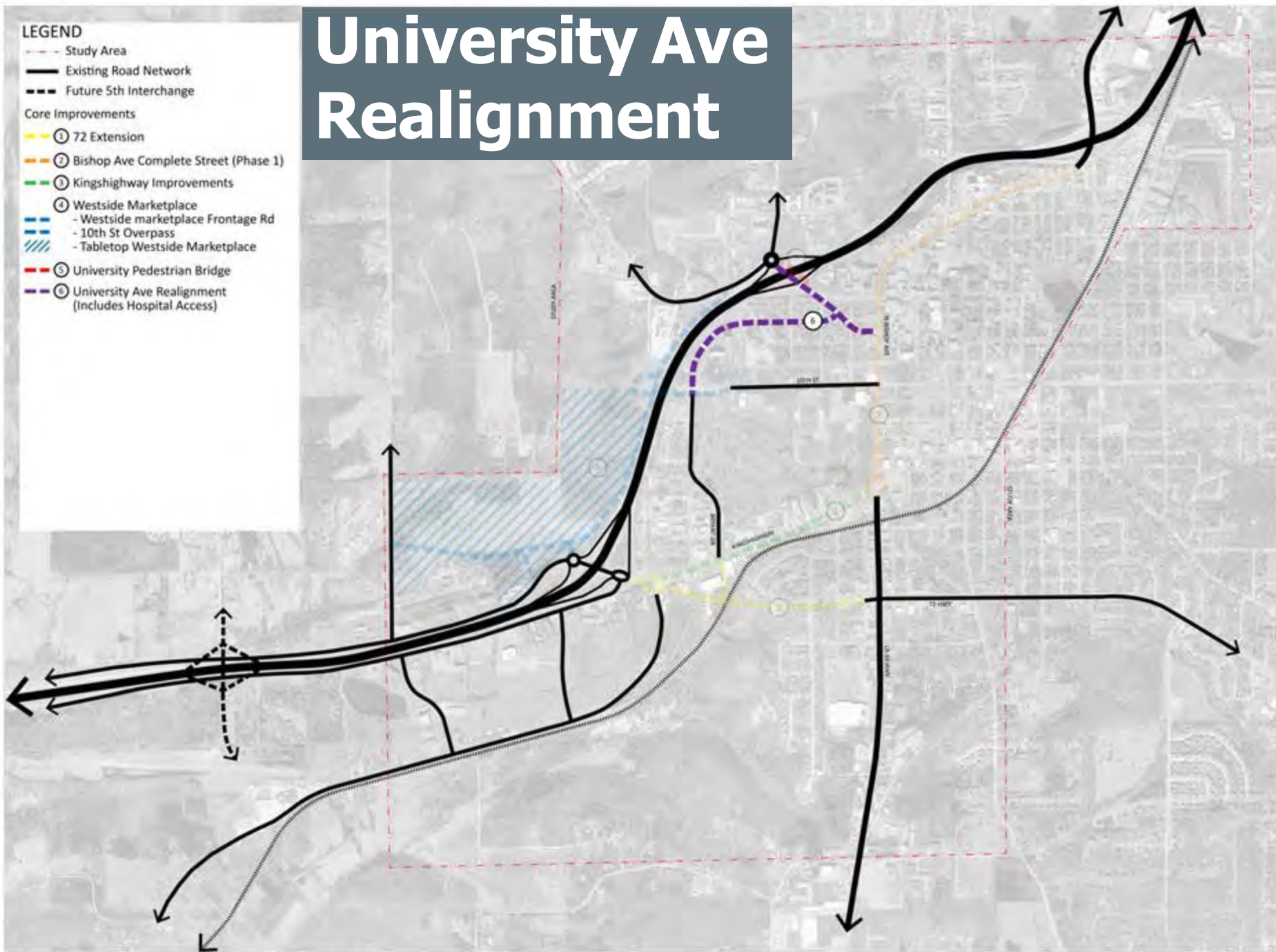
University Pedestrian Bridge

- New dedicated 10-foot bicycle/pedestrian overpass located just east of the I-44/Missouri E interchange Bridge.
- The bridge will span I-44 and connect the sidewalk on University Drive to White Columns Drive north of the interchange connecting University housing.

University Ave Realignment

LEGEND

- Study Area
- Existing Road Network
- Future 5th Interchange
- Core Improvements
 - ① 72 Extension
 - ② Bishop Ave Complete Street (Phase 1)
 - ③ Kingshighway Improvements
 - ④ Westside Marketplace
 - Westside marketplace Frontage Rd
 - 10th St Overpass
 - Tabletop Westside Marketplace
 - ⑤ University Pedestrian Bridge
 - ⑥ University Ave Realignment (Includes Hospital Access)



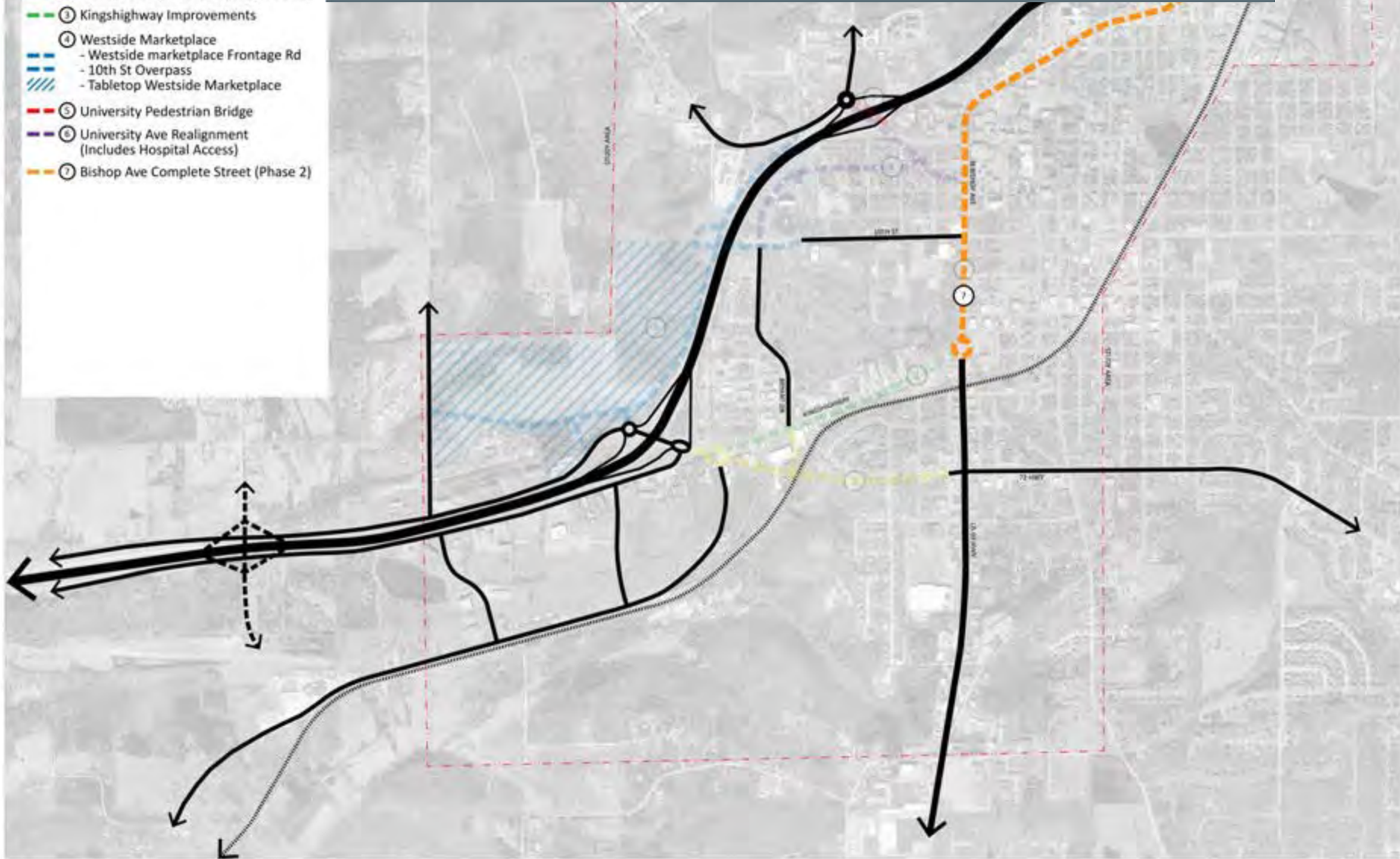
University Avenue Realignment

- The realignment of University Avenue will provide a new direct connection to Miner Circle Drive which serves as the campus front door. This new entrance will be defined with new signage and landscaping that will clearly identify the access to campus and to student services.
- The University realignment provides an additional safe pedestrian crossing of US 63 (Bishop).
- Includes improved Hospital Access. Hospital access will use existing 13th Street. Serves as the primary entrance to the Hospital and the new Cancer Institute.
- As the Hospital campus continues to develop, the Hospital will connect the 13th Street entrance to the 10th Street entrance.

Bishop Avenue Complete Street (Phase 2)

LEGEND

- Study Area
- Existing Road Network
- Future 5th Interchange
- Core Improvements
 - ① 72 Extension
 - ② Bishop Ave Complete Street (Phase 1)
 - ③ Kingshighway Improvements
 - ④ Westside Marketplace
 - Westside marketplace Frontage Rd
 - 10th St Overpass
 - Tabletop Westside Marketplace
 - ⑤ University Pedestrian Bridge
 - ⑥ University Ave Realignment (Includes Hospital Access)
 - ⑦ Bishop Ave Complete Street (Phase 2)

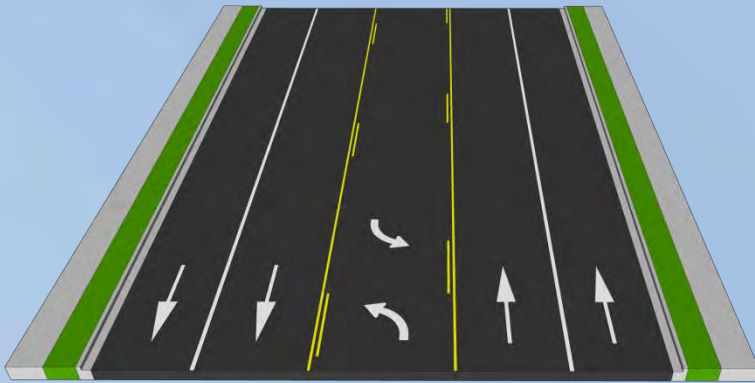


Bishop Avenue (Phase 2)

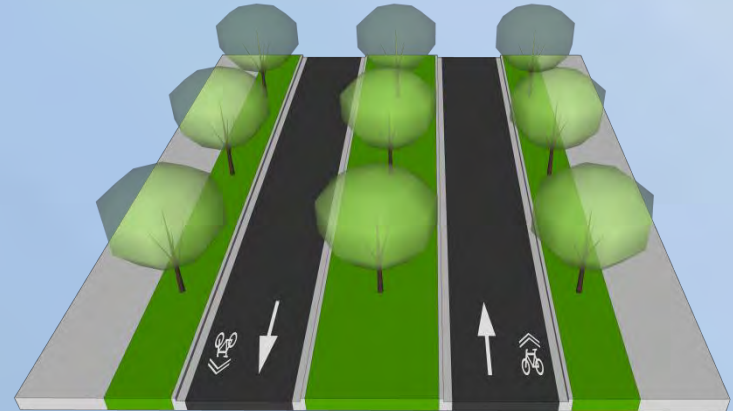
- Transform Bishop Avenue from a highway to a complete street from I-44 south to Kingshighway. Complete street improvements may include:
 - Road diet through the reduction of a travel lane leaving one lane in each direction and a median with roundabouts or traffic signals at major intersections.
 - Improved crosswalks, access management improvements, gateways and aesthetic treatments.
 - Reduce visual clutter, calm traffic by slowing vehicle speeds, and improve the pedestrian and bicycle environment with a possible permanent cycle track.
 - Improvements would be consistent with the Campus Master Plan.

Road Diet Options

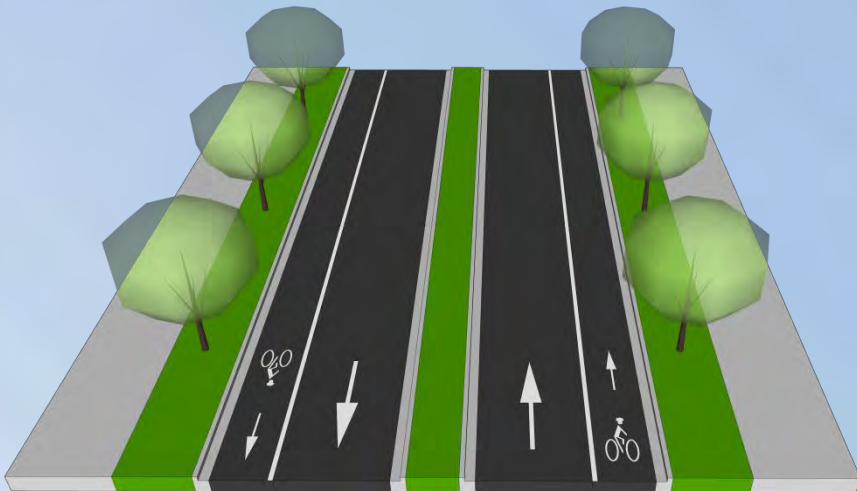
Existing Conditions



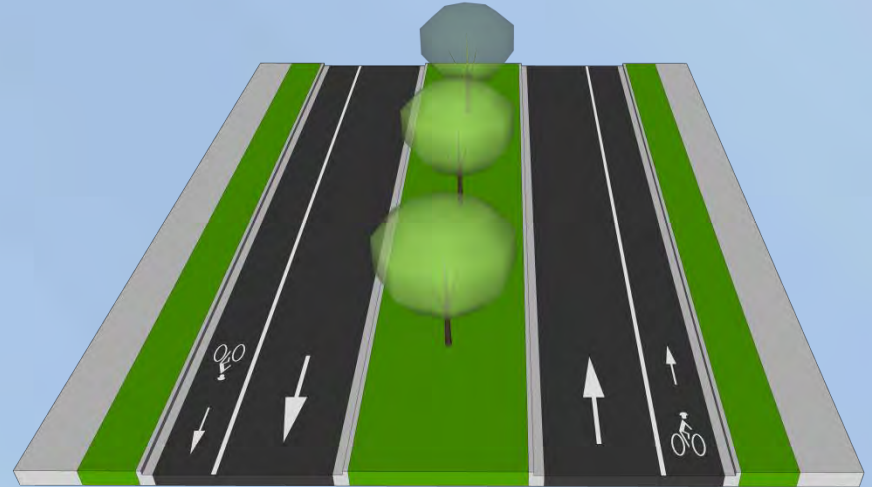
Sharrow, Wide Median and Sidewalk



Bike Lane, Wide Sidewalk



Bike Lane, Wide Median



Shared Lanes (sharrow)



10' Multi-Use Path



Reconstruct 10th St from Bishop to Innovation Dr.

LEGEND

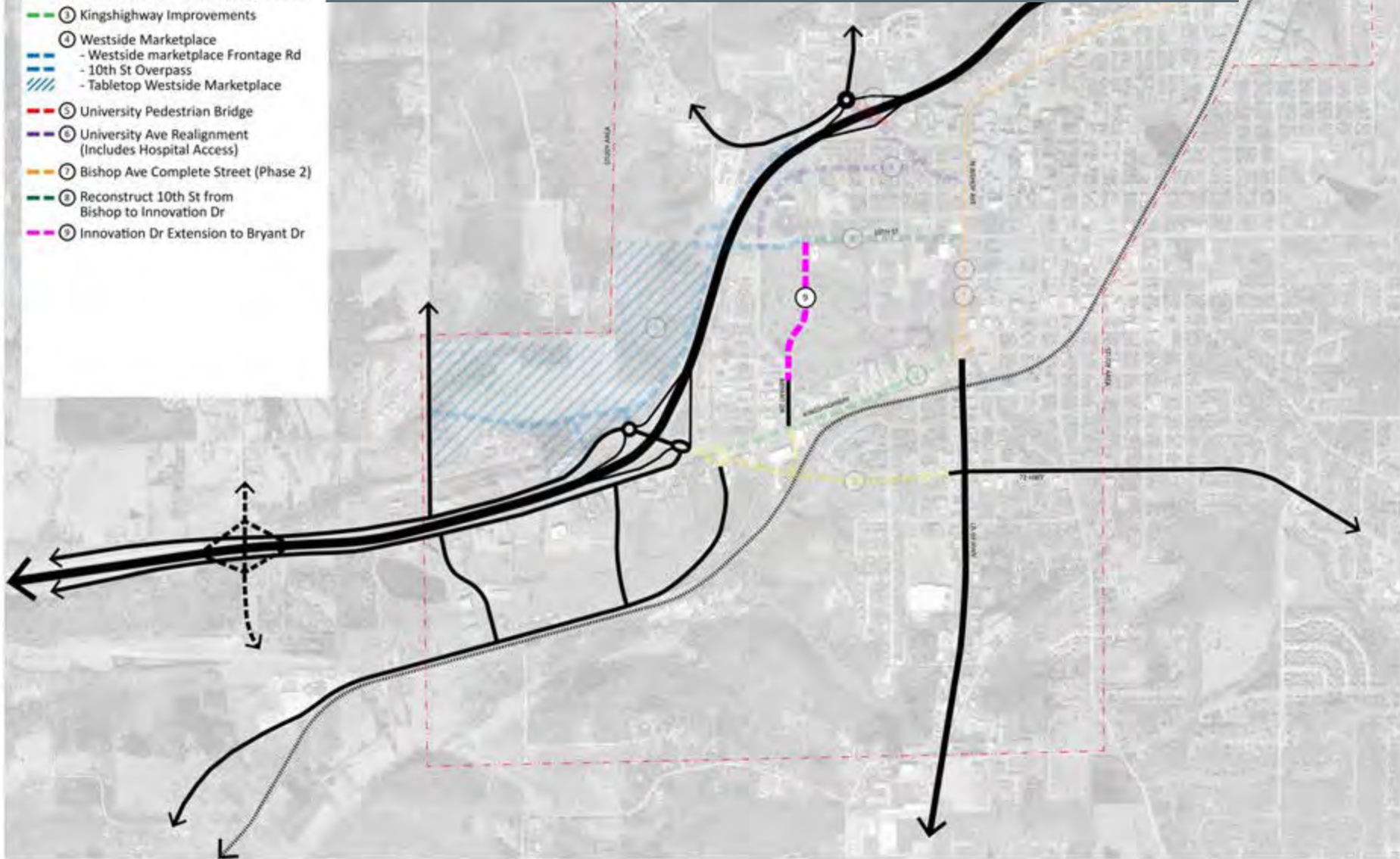
- Study Area
- Existing Road Network
- Future 5th Interchange
- Core Improvements
 - ① 72 Extension
 - ② Bishop Ave Complete Street (Phase 1)
 - ③ Kingshighway Improvements
 - ④ Westside Marketplace
 - Westside marketplace Frontage Rd
 - 10th St Overpass
 - Tabletop Westside Marketplace
 - ⑤ University Pedestrian Bridge
 - ⑥ University Ave Realignment (Includes Hospital Access)
 - ⑦ Bishop Ave Complete Street (Phase 2)
 - ⑧ Reconstruct 10th St from Bishop to Innovation Dr



Innovation Dr. Extension to Bryant Dr.

LEGEND

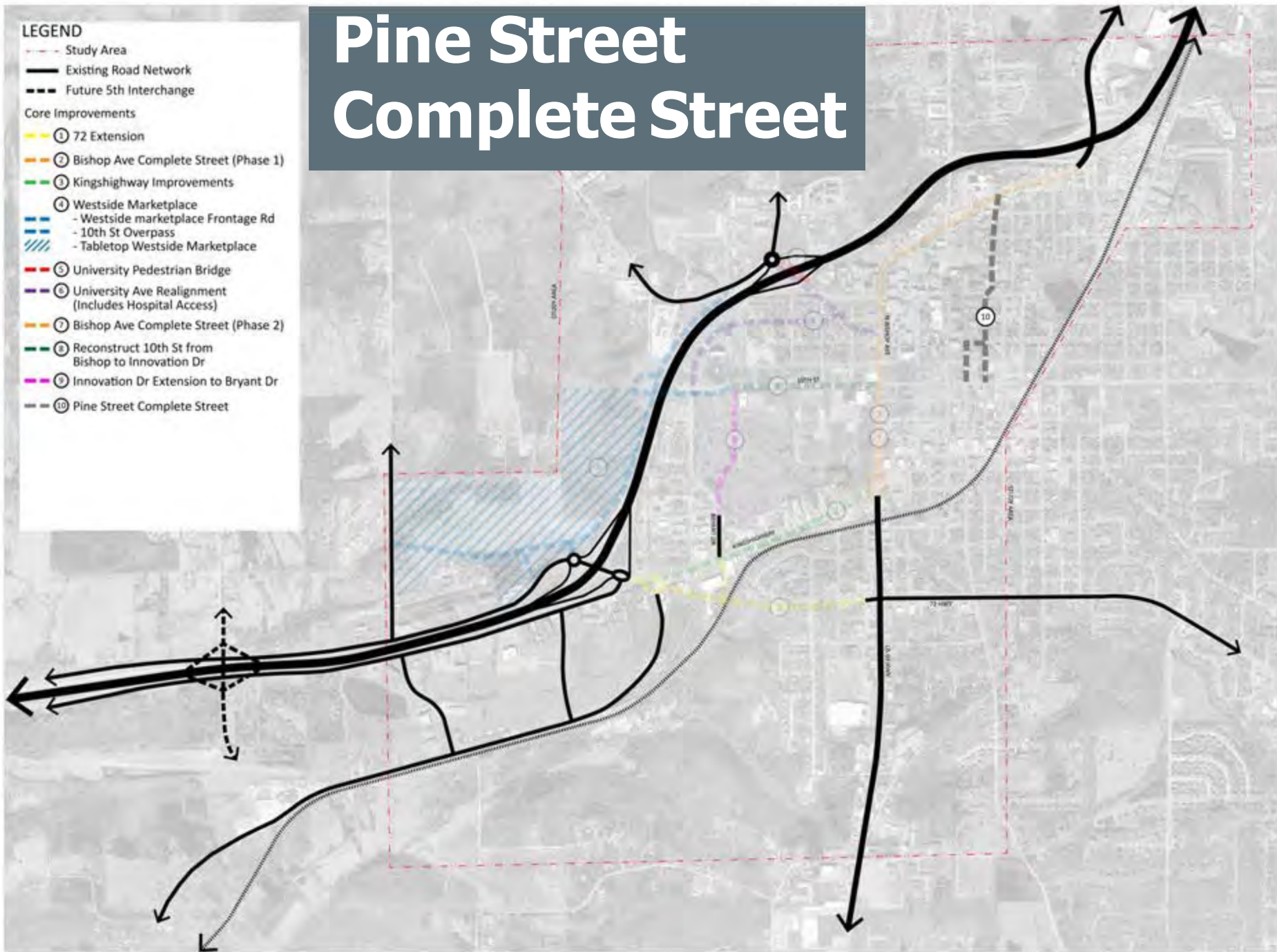
- Study Area
- Existing Road Network
- Future 5th Interchange
- Core Improvements
 - ① 72 Extension
 - ② Bishop Ave Complete Street (Phase 1)
 - ③ Kingshighway Improvements
 - ④ Westside Marketplace
 - Westside marketplace Frontage Rd
 - 10th St Overpass
 - Tabletop Westside Marketplace
 - ⑤ University Pedestrian Bridge
 - ⑥ University Ave Realignment (Includes Hospital Access)
 - ⑦ Bishop Ave Complete Street (Phase 2)
 - ⑧ Reconstruct 10th St from Bishop to Innovation Dr
 - ⑨ Innovation Dr Extension to Bryant Dr



Pine Street Complete Street

LEGEND

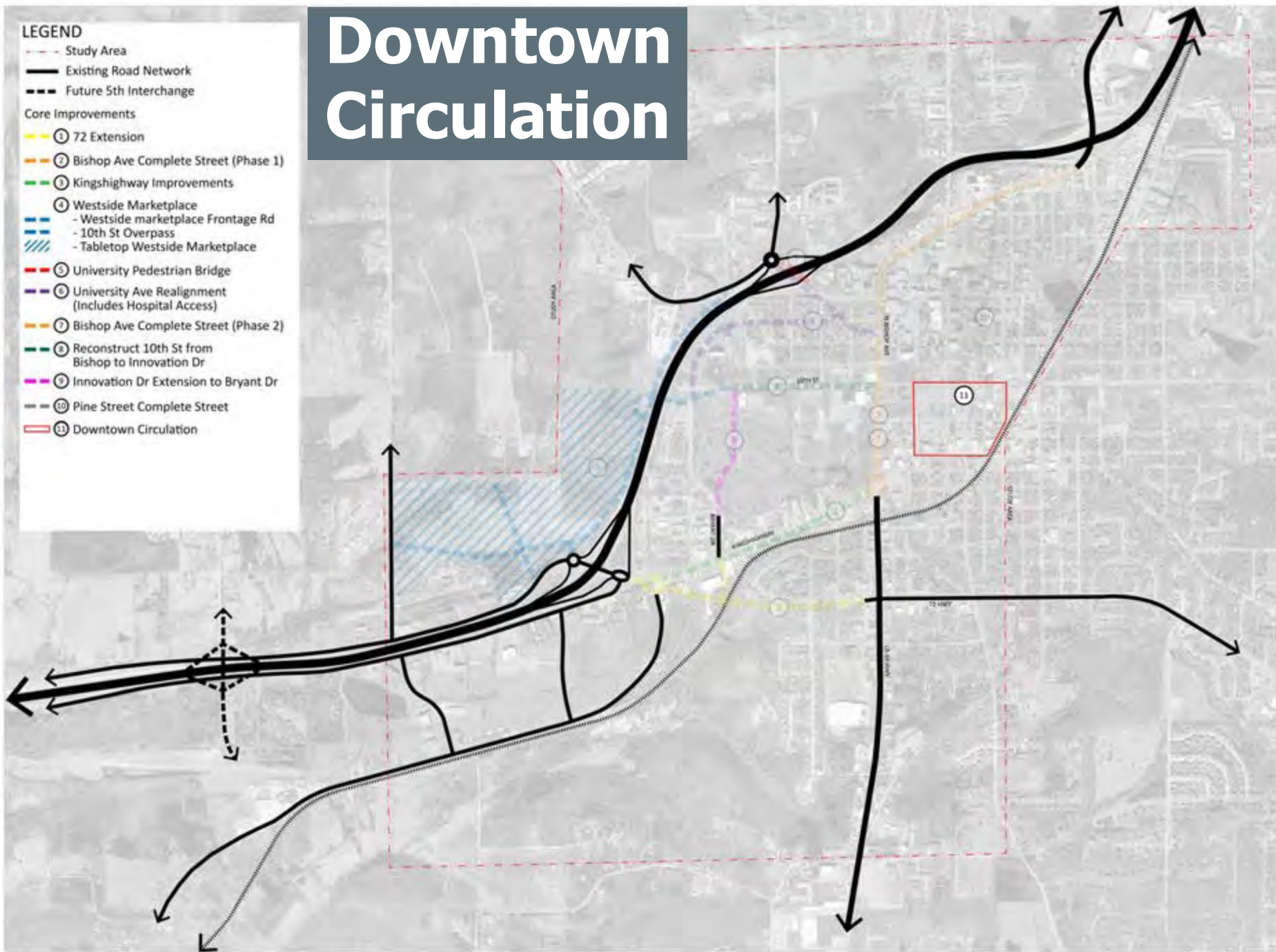
- Study Area
- Existing Road Network
- Future 5th Interchange
- Core Improvements
 - ① 72 Extension
 - ② Bishop Ave Complete Street (Phase 1)
 - ③ Kingshighway Improvements
 - ④ Westside Marketplace
 - Westside marketplace Frontage Rd
 - 10th St Overpass
 - Tabletop Westside Marketplace
 - ⑤ University Pedestrian Bridge
 - ⑥ University Ave Realignment (Includes Hospital Access)
 - ⑦ Bishop Ave Complete Street (Phase 2)
 - ⑧ Reconstruct 10th St from Bishop to Innovation Dr
 - ⑨ Innovation Dr Extension to Bryant Dr
 - ⑩ Pine Street Complete Street



Downtown Circulation

LEGEND

- Study Area
- Existing Road Network
- Future 5th Interchange
- Core Improvements
 - ① 72 Extension
 - ② Bishop Ave Complete Street (Phase 1)
 - ③ Kingshighway Improvements
 - ④ Westside Marketplace
 - Westside marketplace Frontage Rd
 - 10th St Overpass
 - Tabletop Westside Marketplace
 - ⑤ University Pedestrian Bridge
 - ⑥ University Ave Realignment (Includes Hospital Access)
 - ⑦ Bishop Ave Complete Street (Phase 2)
 - ⑧ Reconstruct 10th St from Bishop to Innovation Dr
 - ⑨ Innovation Dr Extension to Bryant Dr
 - ⑩ Pine Street Complete Street
 - ⑪ Downtown Circulation



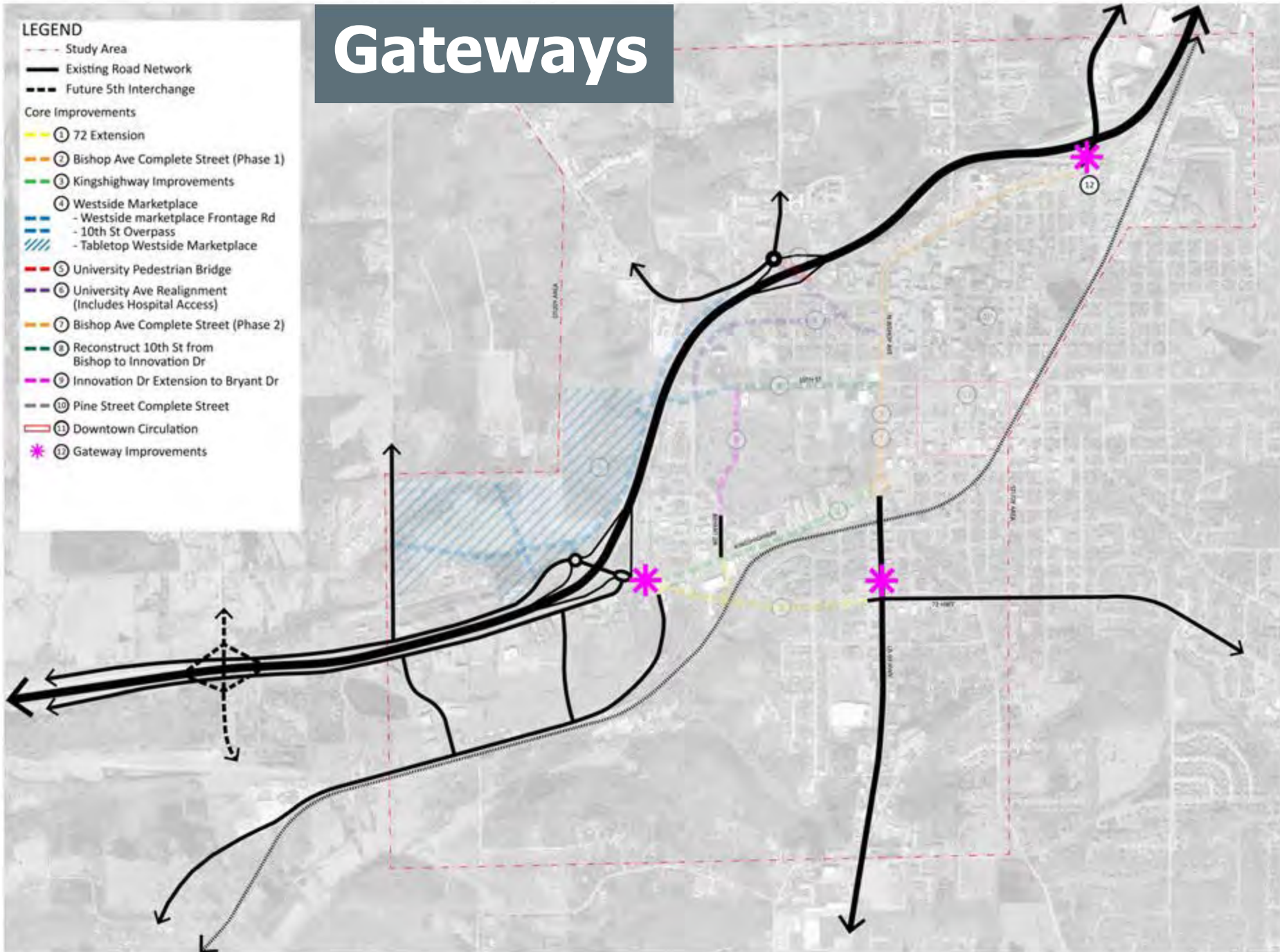
Gateways

LEGEND

- Study Area
- Existing Road Network
- Future 5th Interchange

Core Improvements

- ① 72 Extension
- ② Bishop Ave Complete Street (Phase 1)
- ③ Kingshighway Improvements
- ④ Westside Marketplace
 - Westside marketplace Frontage Rd
 - 10th St Overpass
 - Tabletop Westside Marketplace
- ⑤ University Pedestrian Bridge
- ⑥ University Ave Realignment (Includes Hospital Access)
- ⑦ Bishop Ave Complete Street (Phase 2)
- ⑧ Reconstruct 10th St from Bishop to Innovation Dr
- ⑨ Innovation Dr Extension to Bryant Dr
- ⑩ Pine Street Complete Street
- ⑪ Downtown Circulation
- * ⑫ Gateway Improvements



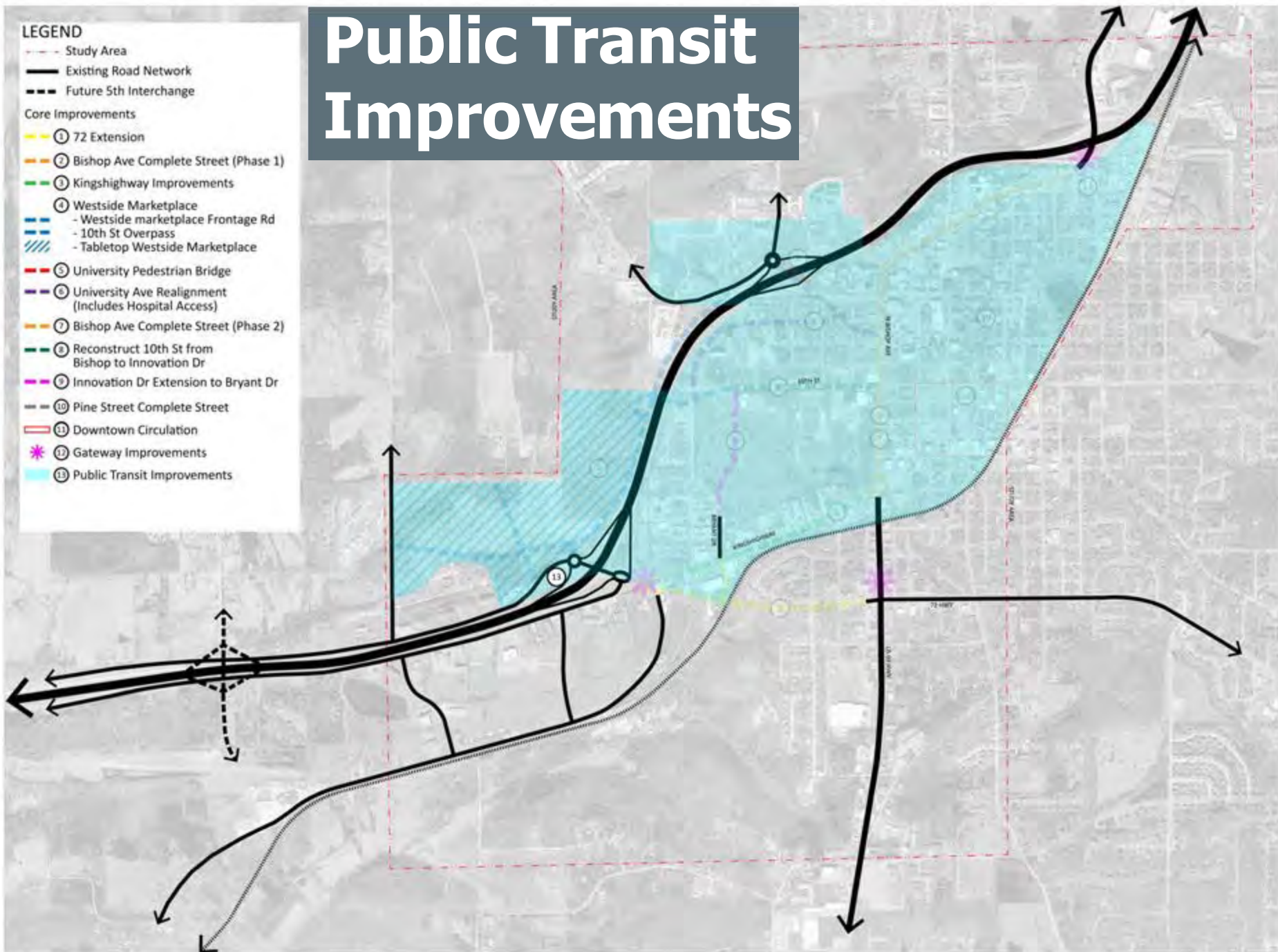
Gateways



Public Transit Improvements

LEGEND

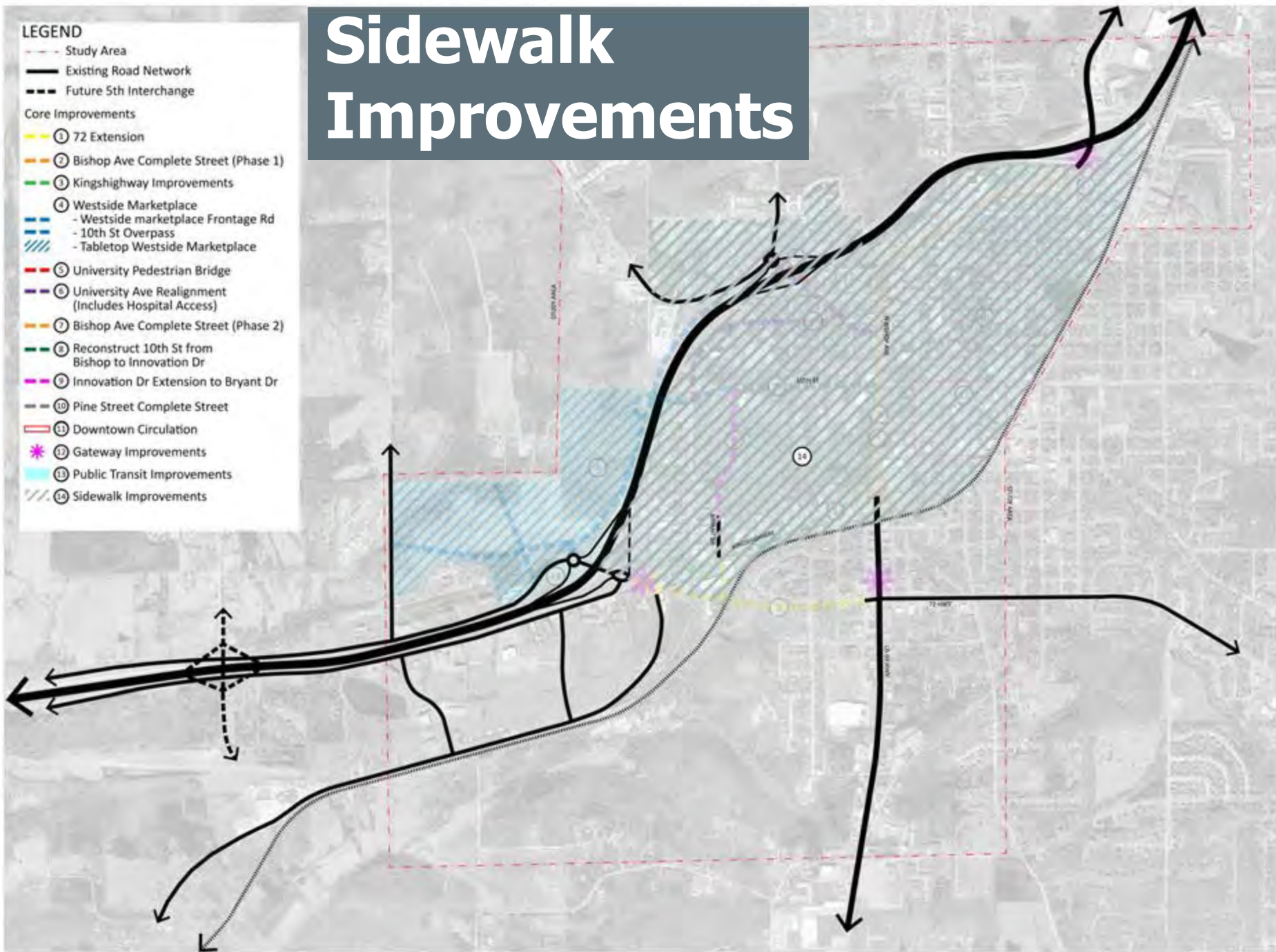
- Study Area
- Existing Road Network
- Future 5th Interchange
- Core Improvements**
- ① 72 Extension
- ② Bishop Ave Complete Street (Phase 1)
- ③ Kingshighway Improvements
- ④ Westside Marketplace
 - Westside marketplace Frontage Rd
 - 10th St Overpass
 - Tabletop Westside Marketplace
- ⑤ University Pedestrian Bridge
- ⑥ University Ave Realignment (Includes Hospital Access)
- ⑦ Bishop Ave Complete Street (Phase 2)
- ⑧ Reconstruct 10th St from Bishop to Innovation Dr
- ⑨ Innovation Dr Extension to Bryant Dr
- ⑩ Pine Street Complete Street
- ⑪ Downtown Circulation
- ✳ ⑫ Gateway Improvements
- ⑬ Public Transit Improvements



Sidewalk Improvements

LEGEND

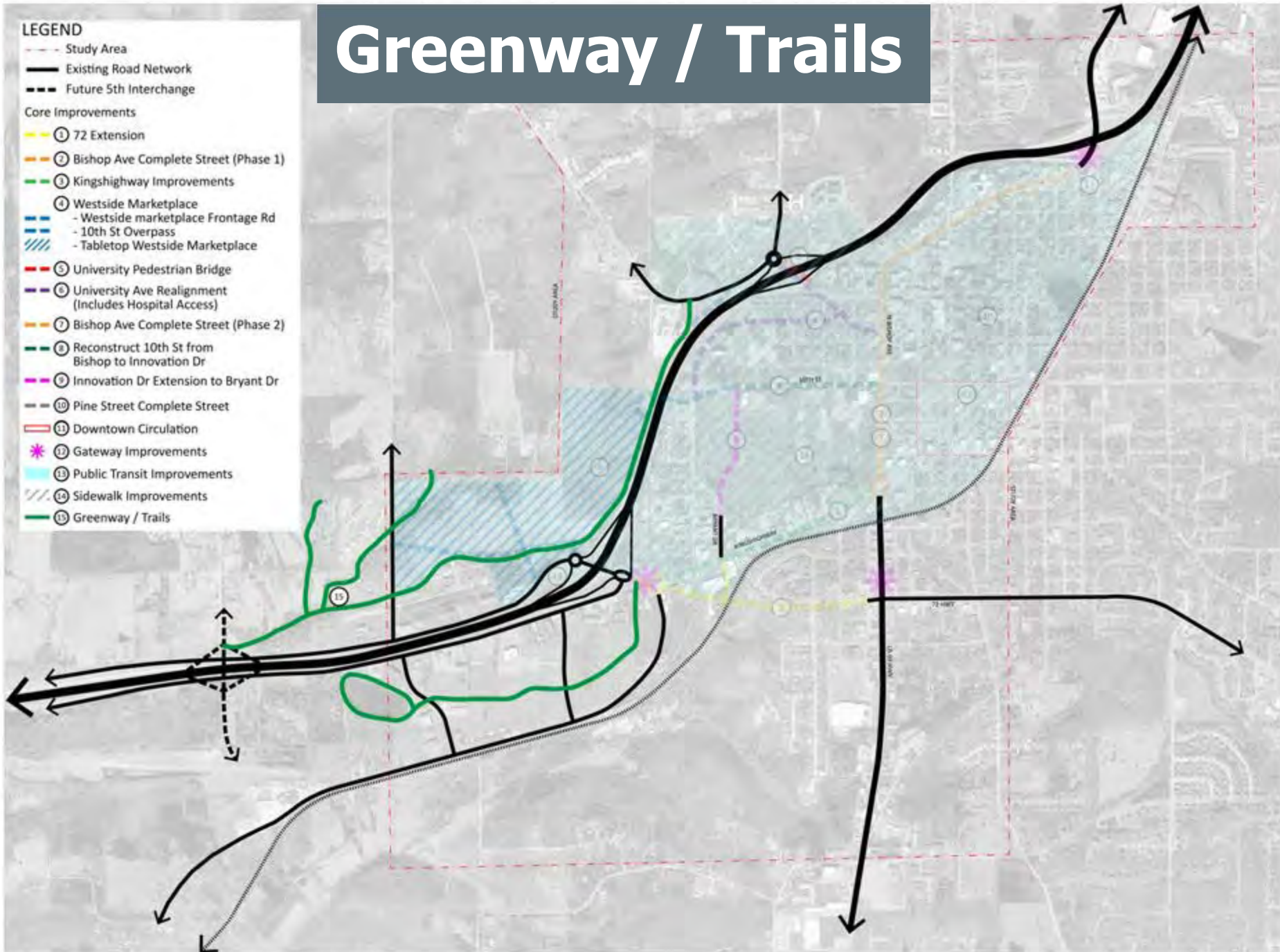
- Study Area
- Existing Road Network
- - - Future 5th Interchange
- Core Improvements**
- ① 72 Extension
- ② Bishop Ave Complete Street (Phase 1)
- ③ Kingshighway Improvements
- ④ Westside Marketplace
 - Westside marketplace Frontage Rd
 - 10th St Overpass
 - Tabletop Westside Marketplace
- ⑤ University Pedestrian Bridge
- ⑥ University Ave Realignment (Includes Hospital Access)
- ⑦ Bishop Ave Complete Street (Phase 2)
- ⑧ Reconstruct 10th St from Bishop to Innovation Dr
- ⑨ Innovation Dr Extension to Bryant Dr
- ⑩ Pine Street Complete Street
- ⑪ Downtown Circulation
- * ⑫ Gateway Improvements
- ⑬ Public Transit Improvements
- /// ⑭ Sidewalk Improvements



Greenway / Trails

LEGEND

- Study Area
- Existing Road Network
- Future 5th Interchange
- Core Improvements**
- ① 72 Extension
- ② Bishop Ave Complete Street (Phase 1)
- ③ Kingshighway Improvements
- ④ Westside Marketplace
 - Westside marketplace Frontage Rd
 - 10th St Overpass
 - Tabletop Westside Marketplace
- ⑤ University Pedestrian Bridge
- ⑥ University Ave Realignment (Includes Hospital Access)
- ⑦ Bishop Ave Complete Street (Phase 2)
- ⑧ Reconstruct 10th St from Bishop to Innovation Dr
- ⑨ Innovation Dr Extension to Bryant Dr
- ⑩ Pine Street Complete Street
- ⑪ Downtown Circulation
- ✳ ⑫ Gateway Improvements
- ⑬ Public Transit Improvements
- ⑭ Sidewalk Improvements
- ⑮ Greenway / Trails



Future Traffic & Safety Evaluation

- 2040 AM and PM peak hour traffic
 - Background growth
 - Campus Master Plan
 - Hospital Cancer Center
 - Westside Marketplace
- With and without Bishop complete street diversion based on origin/destination results
- Traffic level of service
- Safety

Future Traffic Evaluation

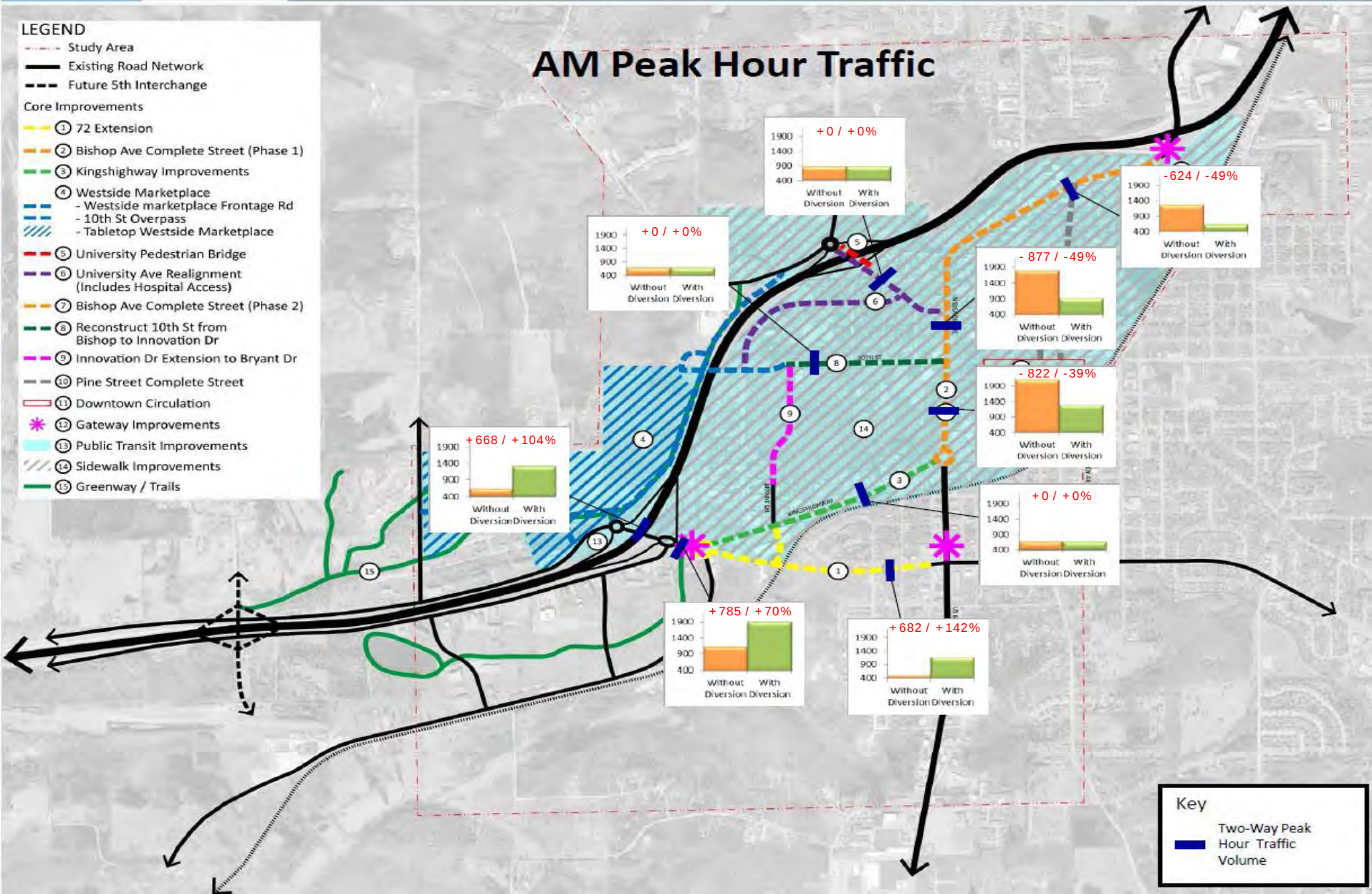
LEGEND

- Study Area
- Existing Road Network
- Future 5th Interchange

Core Improvements

- ① 72 Extension
- ② Bishop Ave Complete Street (Phase 1)
- ③ Kingshighway Improvements
- ④ Westside Marketplace
 - Westside marketplace Frontage Rd
 - 10th St Overpass
 - Tabletop Westside Marketplace
- ⑤ University Pedestrian Bridge
- ⑥ University Ave Realignment (Includes Hospital Access)
- ⑦ Bishop Ave Complete Street (Phase 2)
- ⑧ Reconstruct 10th St from Bishop to Innovation Dr
- ⑨ Innovation Dr Extension to Bryant Dr
- ⑩ Pine Street Complete Street
- ⑪ Downtown Circulation
- ⑫ Gateway Improvements
- ⑬ Public Transit Improvements
- ⑭ Sidewalk Improvements
- ⑮ Greenway / Trails

AM Peak Hour Traffic



Key

- Two-Way Peak Hour Traffic Volume

Future Traffic Evaluation

Study Area

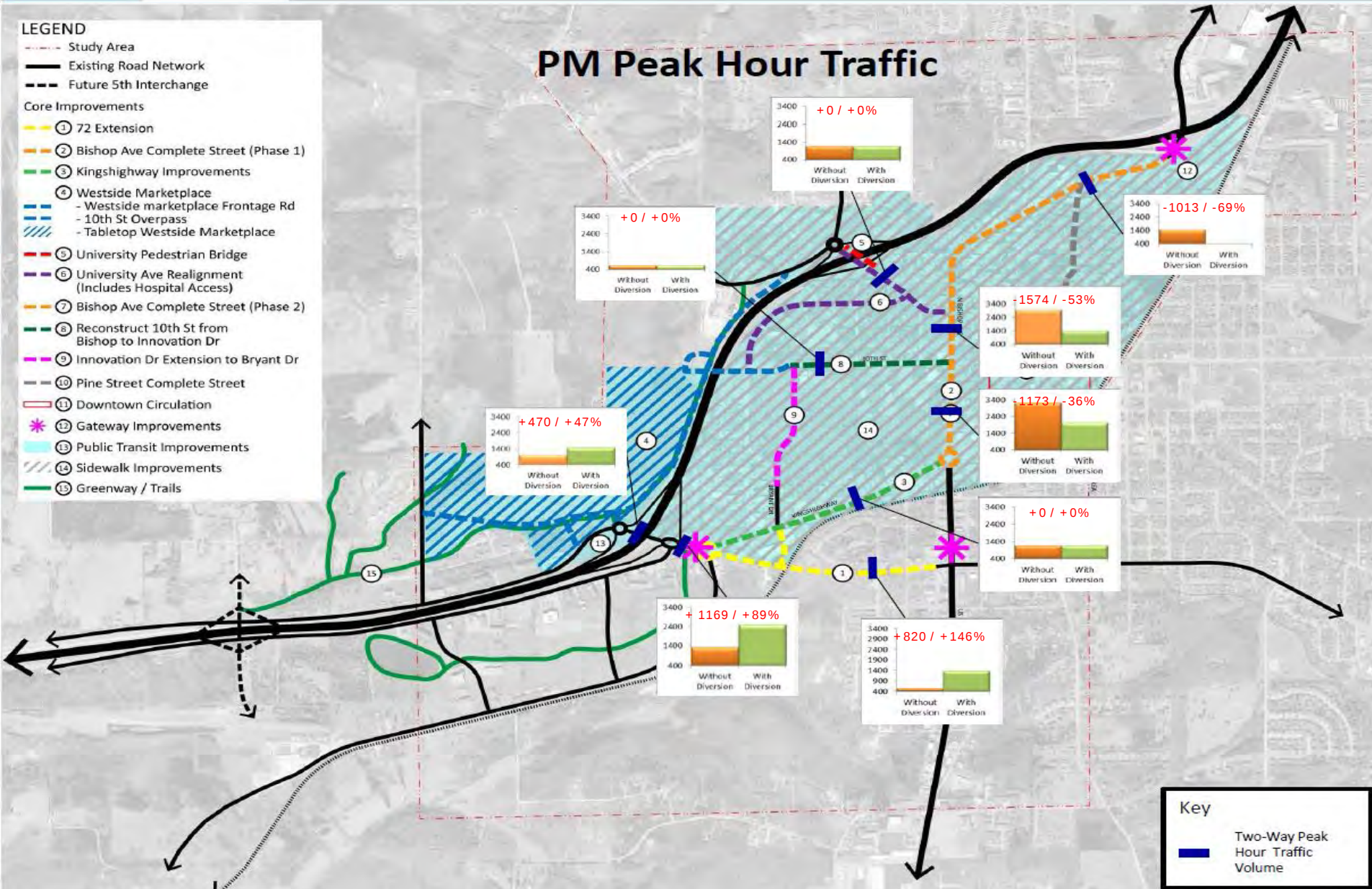
Existing Road Network

Future 5th Interchange

Core Improvements

- 72 Extension
- Bishop Ave Complete Street (Phase 1)
- Kingshighway Improvements
- Westside Marketplace
 - Westside marketplace Frontage Rd
 - 10th St Overpass
 - Tabletop Westside Marketplace
- University Pedestrian Bridge
- University Ave Realignment (Includes Hospital Access)
- Bishop Ave Complete Street (Phase 2)
- Reconstruct 10th St from Bishop to Innovation Dr
- Innovation Dr Extension to Bryant Dr
- Pine Street Complete Street
- Downtown Circulation
- Gateway Improvements
- Public Transit Improvements
- Sidewalk Improvements
- Greenway / Trails

PM Peak Hour Traffic



Future Traffic Evaluation

LEGEND

- - - Study Area
- Existing Road Network
- - - Future 5th Interchange
- Core Improvements**
- ① 72 Extension
- ② Bishop Ave Complete Street (Phase 1)
- ③ Kingshighway Improvements
- ④ Westside Marketplace
 - Westside marketplace Frontage Rd
 - 10th St Overpass
 - Tabletop Westside Marketplace
- ⑤ University Pedestrian Bridge
- ⑥ University Ave Realignment (Includes Hospital Access)
- ⑦ Bishop Ave Complete Street (Phase 2)
- ⑧ Reconstruct 10th St from Bishop to Innovation Dr
- ⑨ Innovation Dr Extension to Bryant Dr
- ⑩ Pine Street Complete Street
- ⑪ Downtown Circulation
- * Gateway Improvements
- Public Transit Improvements
- Sidewalk Improvements
- Greenway / Trails

Level of Service by Intersection - AM

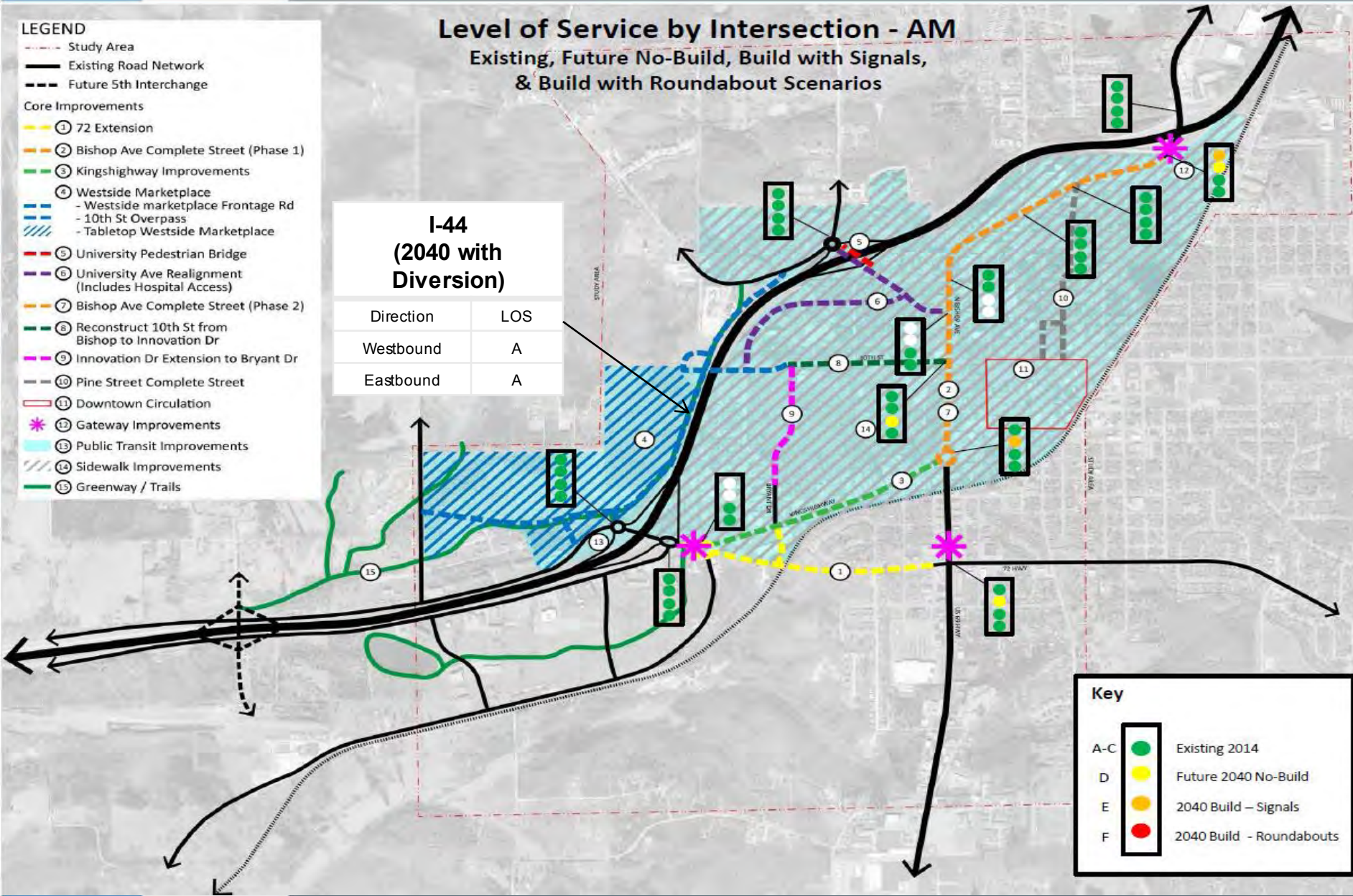
Existing, Future No-Build, Build with Signals, & Build with Roundabout Scenarios

I-44 (2040 with Diversion)

Direction	LOS
Westbound	A
Eastbound	A

Key

- A-C Existing 2014
- D Future 2040 No-Build
- E 2040 Build – Signals
- F 2040 Build - Roundabouts



Future Traffic Evaluation

LEGEND

- Study Area
- Existing Road Network
- Future 5th Interchange
- Core Improvements
 - ① 72 Extension
 - ② Bishop Ave Complete Street (Phase 1)
 - ③ Kingshighway Improvements
 - ④ Westside Marketplace
 - Westside marketplace Frontage Rd
 - 10th St Overpass
 - Tabletop Westside Marketplace
 - ⑤ University Pedestrian Bridge
 - ⑥ University Ave Realignment (Includes Hospital Access)
 - ⑦ Bishop Ave Complete Street (Phase 2)
 - ⑧ Reconstruct 10th St from Bishop to Innovation Dr
 - ⑨ Innovation Dr Extension to Bryant Dr
 - ⑩ Pine Street Complete Street
 - ⑪ Downtown Circulation
 - ⑫ Gateway Improvements
 - ⑬ Public Transit Improvements
 - ⑭ Sidewalk Improvements
 - ⑮ Greenway / Trails

Level of Service by Intersection - PM

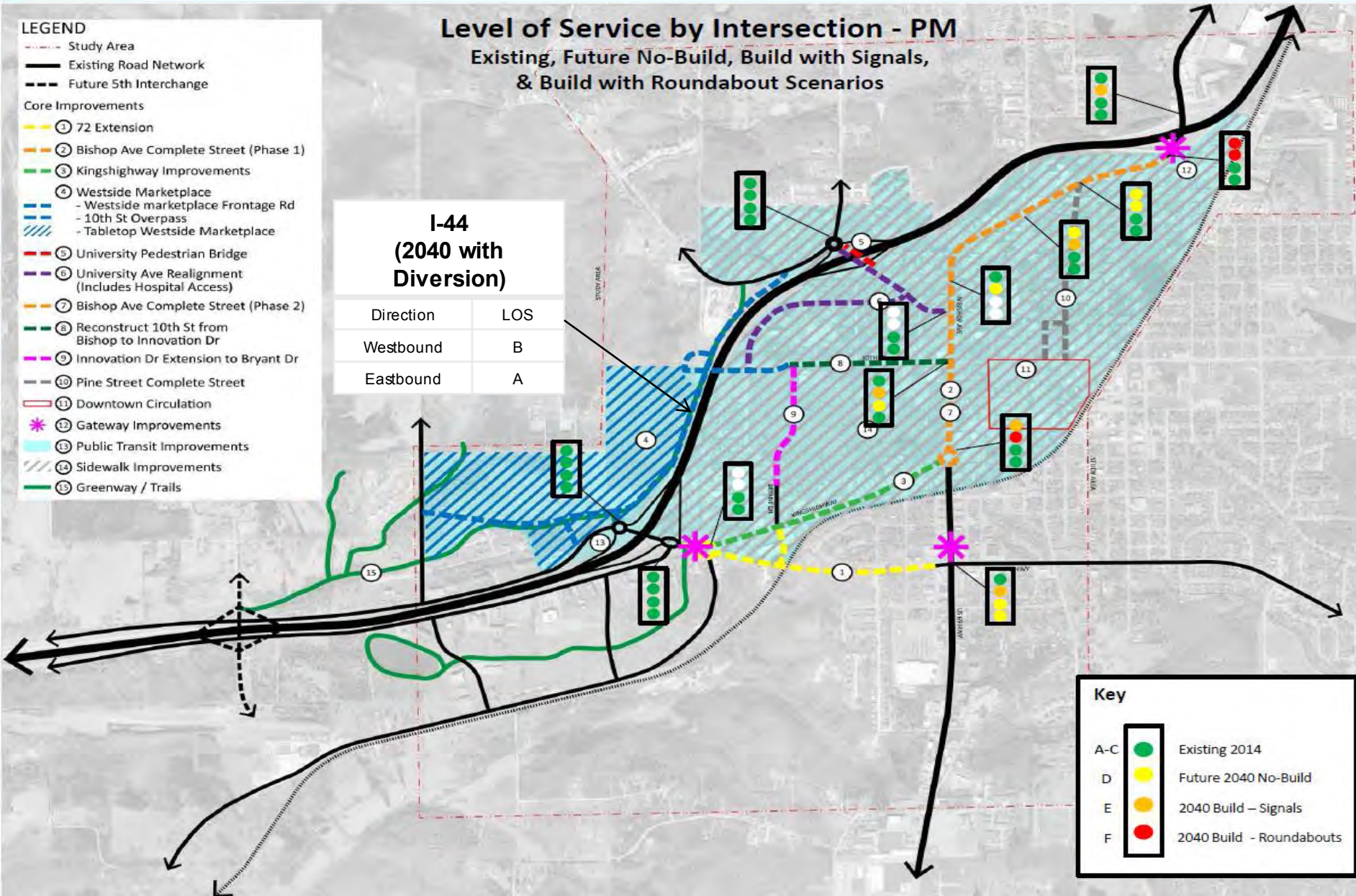
Existing, Future No-Build, Build with Signals, & Build with Roundabout Scenarios

I-44 (2040 with Diversion)

Direction	LOS
Westbound	B
Eastbound	A

Key

- A-C Existing 2014
- D Future 2040 No-Build
- E 2040 Build – Signals
- F 2040 Build - Roundabouts



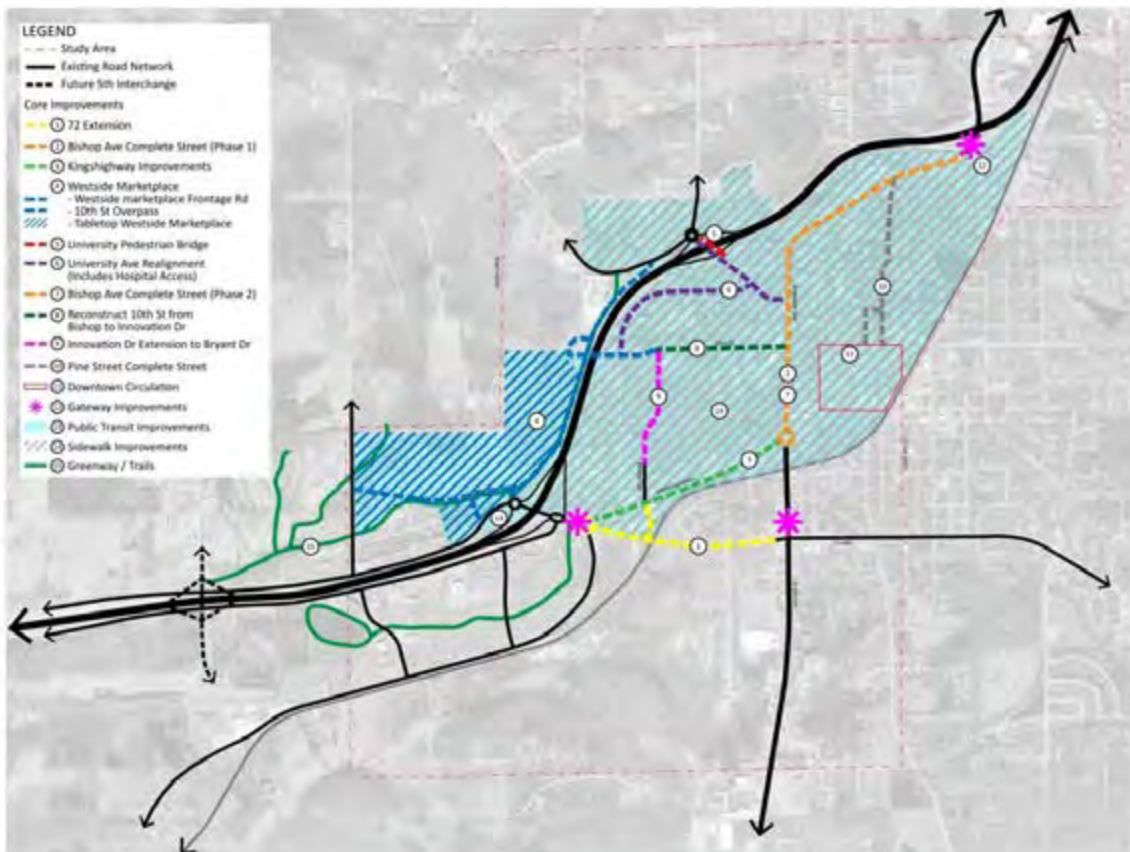
Safety

Type	Approach	Crash Reduction Potential
Signalized intersection to roundabout	Conflict Points	73%
Road diet (4 lane to 3 lane with center turn lane)	CMF*	47%
Signalized intersection to multi-lane roundabout	CMF*	63%
Signalized intersection to single-lane roundabout	CMF*	36%

- Approximately 77 annual crashes along Bishop ('09-'13)
- Assuming 36% to 73% reduction with Bishop improvements
- **Annual crashes could be reduced to between 19 and 49**

* CMF = Crash Modification Factor

Project Costs



MoveRolla Transportation Plan

	Total (Millions)
Projects	
1. 72 Extension with I-44 and Bishop reconfiguration (e.g. SB Right Turn to I-44)	\$11.4
2. Bishop Ave. Complete Street (Phase 1)	\$2.0
3. Kingshighway Improvements	\$3.8
4. Westside Marketplace	
a. Westside Marketplace Frontage Rd.	\$8.6
b. 10th Street Overpass	\$8.6
c. Tabletop Westside Marketplace	\$7.0
5. University Pedestrian Bridge	\$2.0
6. University Realignment (includes improved hospital access)	\$5.3
7. Bishop Ave. Complete Street (Phase 2)	\$7.0
8. Reconstruct 10th Street from Bishop to Innovation Drive	\$0.8
9. Innovation Drive Extension to Bryant Drive	\$0.5
10. Pine Street Reconstruction from Bishop to 10th Street to include converting Pine two-way traffic from 12th to 10th	\$1.2
11. Downtown Circulation	-
12. Gateway Improvements	-
13. Public Transit Improvements	-
14. Sidewalk Improvements	-
15. Greenway/Trails	-
Total	\$58.2

Evaluation Matrix

PROJECT GOALS

Study Goals / Performance Measures	Measure	Primary Improvements		
		Build Alt. 1	Build Alt. 2	Build Alt. 3
Develop a safe transportation environment				
Vehicular and Pedestrian Reduction of Accidents				
Develop a convenient transportation system				
Enhances regional mobility, connectivity and accessibility				
Promote Multimodal				
Includes all modes of mobility				
Develop a transportation system that promotes economic opportunities				
Promotes new or infill development				
Develop a transportation system that creates a sense of place				
Enhances character and sense of place				
Constructability & Phasing				
Can be constructed with other projects and cost share				
Total Score				
Total Score				
Costs				
Capital Construction Costs	Cost			
Ratio	Score/Cost			
Rank	Rank			
		0	Poor	
		1		
		2		
		3		
		4	Excellent	

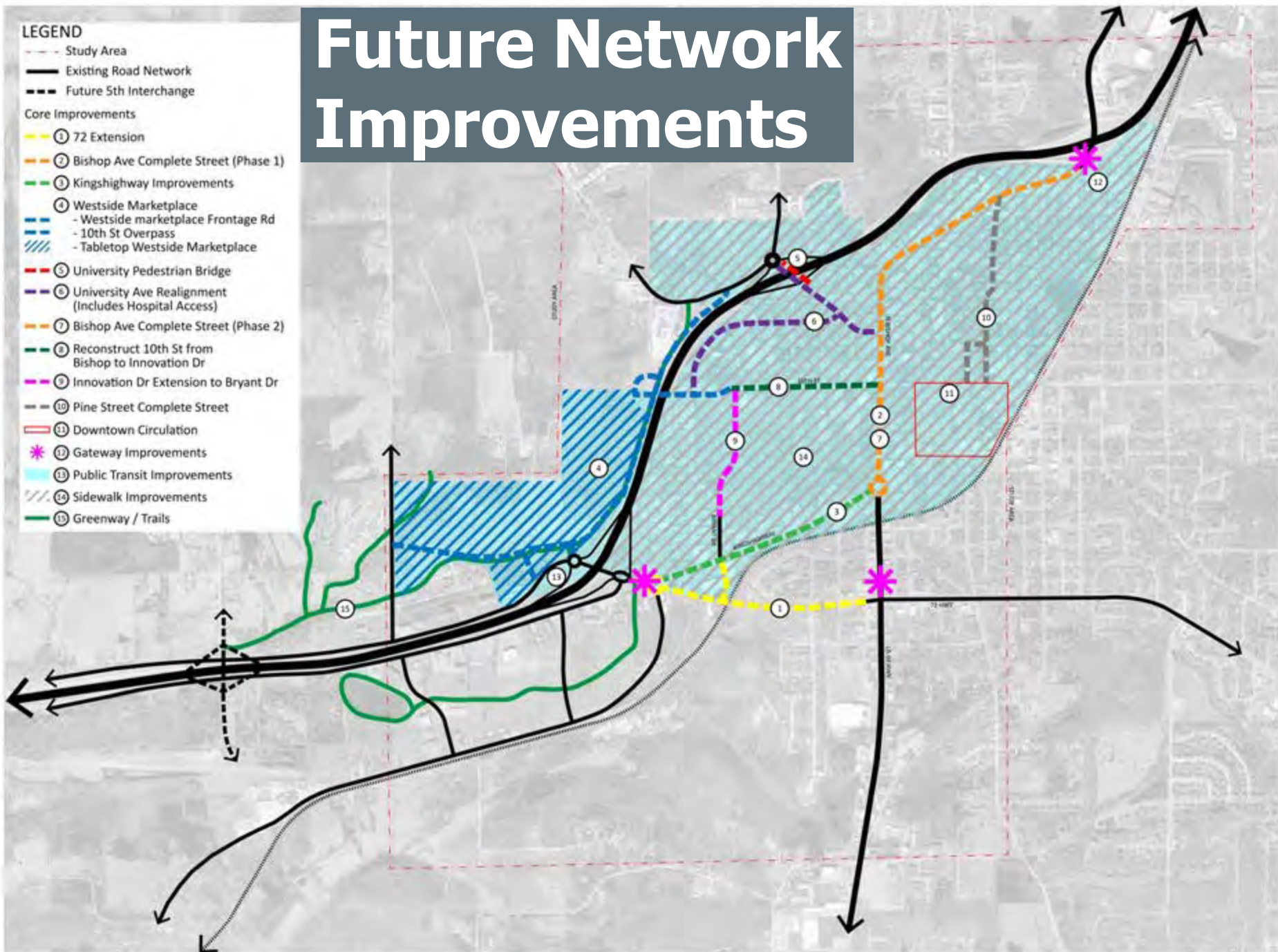
Draft Project Costs & Prioritization

<i>MoveRolla</i> Transportation Plan	2015 Probable Cost (Millions)	ROW	Total
Phase 1 Improvements (Near Term)			
1. 72 Extension with I-44 and Bishop reconfiguration (e.g. SB Right Turn to I-44)	\$7.3	\$4.1	\$11.4
2. Bishop Ave. Complete Street (Phase 1)	\$2.0	\$0.0	\$2.0
3. Kingshighway Improvements	\$3.8	\$0.0	\$3.8
4. Westside Marketplace			
a. Westside Marketplace Frontage Rd.	\$8.6	\$0.0	\$8.6
b. 10th Street Overpass	\$7.0	\$1.6	\$8.6
c. Tabletop Westside Marketplace	\$7.0	\$0.0	\$7.0
5. University Pedestrian Bridge	\$2.0	\$0.0	\$2.0
6. University Realignment (includes improved hospital access)	\$3.7	\$1.6	\$5.3
Phase 1 Total	\$37.7	\$5.7	\$43.4
Phase 2 Improvements (Mid Term)			
7. Bishop Ave. Complete Street (Phase 2)	\$7.0	\$0.0	\$7.0
8. Reconstruct 10th Street from Bishop to Innovation Drive	\$0.8	\$0.0	\$0.8
9. Innovation Drive Extension to Bryant Drive	\$0.5	\$0.0	\$0.5
10. Pine Street Reconstruction from Bishop to 10th Street to include converting Pine two-way traffic from 12th to 10th	\$1.2	\$0.0	\$1.2
Phase 2 Total	\$13.2	\$1.6	\$14.8
Phase 1 & 2 Total	\$50.9	\$7.3	\$58.2
Phase 3 Improvements (Ultimate)*			
11. Downtown Circulation			
12. Gateway Improvements			
13. Public Transit Improvements			
14. Sidewalk Improvements			
15. Greenway/Trails			
*Further Study Required			

Future Network Improvements

LEGEND

- Study Area
- Existing Road Network
- - - Future 5th Interchange
- Core Improvements**
- ① 72 Extension
- ② Bishop Ave Complete Street (Phase 1)
- ③ Kingshighway Improvements
- ④ Westside Marketplace
 - Westside marketplace Frontage Rd
 - 10th St Overpass
 - Tabletop Westside Marketplace
- ⑤ University Pedestrian Bridge
- ⑥ University Ave Realignment (Includes Hospital Access)
- ⑦ Bishop Ave Complete Street (Phase 2)
- ⑧ Reconstruct 10th St from Bishop to Innovation Dr
- ⑨ Innovation Dr Extension to Bryant Dr
- ⑩ Pine Street Complete Street
- ⑪ Downtown Circulation
- * ⑫ Gateway Improvements
- ⑬ Public Transit Improvements
- ⑭ Sidewalk Improvements
- ⑮ Greenway / Trails



Next Steps

- Incorporate feedback from Core Team and Stakeholders
- Develop MoveRolla Strategy Document
 - Financially constrained list of projects
 - Ultimate list of projects
 - Cost share opportunities
 - Implementation Plan
 - Next steps
- Presentation to Public and City Council

MoveRolla

TRANSPORTATION STRATEGY

**APPENDIX A.3
SEPTEMBER 14, 2015
OPEN HOUSE BOARD AND FACT SHEET**



MoveRolla Transportation Strategy

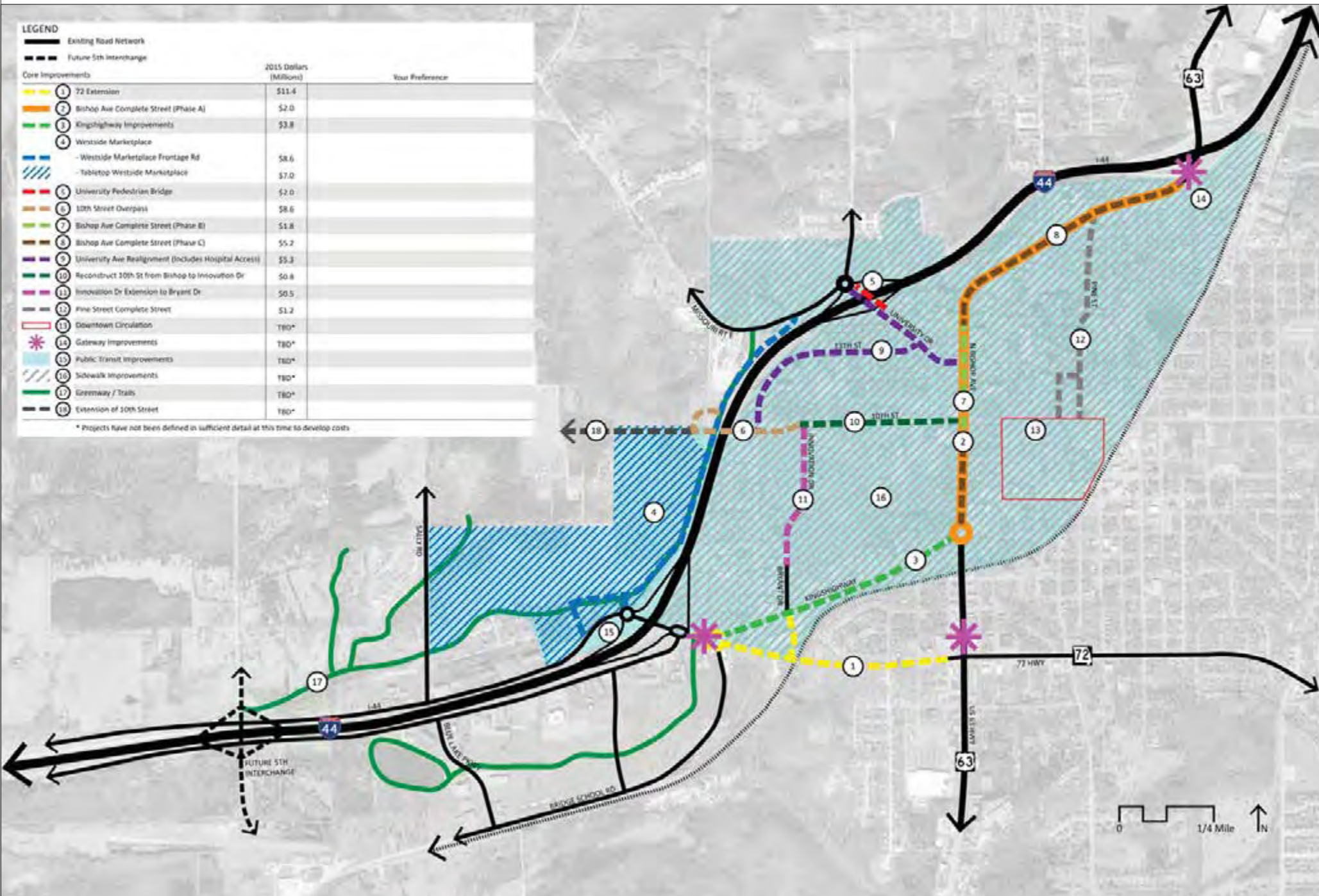
Recommended Improvements

LEGEND

- Existing Road Network
- Future 5th Interchange

Core Improvements	2015 Dollars (Millions)	Your Preference
1 72 Extension	\$11.4	
2 Bishop Ave Complete Street (Phase A)	\$2.0	
3 Kingshighway Improvements	\$3.8	
4 Westside Marketplace		
5 Westside Marketplace Frontage Rd	\$8.6	
6 Tabletop Westside Marketplace	\$7.0	
7 University Pedestrian Bridge	\$2.0	
8 10th Street Overpass	\$8.6	
9 Bishop Ave Complete Street (Phase B)	\$1.8	
10 Bishop Ave Complete Street (Phase C)	\$5.2	
11 University Ave Realignment (Includes Hospital Access)	\$5.3	
12 Reconstruct 10th St from Bishop to Innovation Dr	\$0.8	
13 Innovation Dr Extension to Bryant Dr	\$0.5	
14 Fine Street Complete Street	\$1.2	
15 Downtown Circulation	TBD*	
16 Gateway Improvements	TBD*	
17 Public Transit Improvements	TBD*	
18 Sidewalk Improvements	TBD*	
19 Greenway / Trails	TBD*	
20 Extension of 10th Street	TBD*	

* Projects have not been defined in sufficient detail at this time to develop costs



MoveRolla Transportation Strategy

Planning Process

MoveRolla was developed through a multi-step planning process shown in the graphic below. Through this process, the preferred multimodal network improvements, conceptual costs, project phasing and a funding strategy based on a technical analysis of existing and future conditions and input from the project core team, stakeholders and the public were developed.

Next Steps

Implementation of the *MoveRolla* multimodal network improvements will occur over several years depending on funding availability. The next steps for implementation include:

- Approval of *MoveRolla* by the City Council
- Establish preferred funding package
 - Transportation Development District (TDD)
 - Tax Increment Financing (TIF) District
 - Cost share/partnership opportunities
- Design of multimodal network improvements

For more information
please contact:

Steve Hargis, P.E.
Director of Public Works
City of Rolla, Missouri
901 North Elm Street
E-mail: shargis@rollacity.org
Phone: 573-364-8659

Project Core Team:

City of Rolla
MoDOT
Missouri S&T
Phelps County Regional
Medical Center
Westside Marketplace



September 2015

MoveRolla Transportation Strategy

Study Purpose

The *MoveRolla Transportation Strategy* (*MoveRolla*) provides a framework for the implementation of a multimodal transportation network for Rolla's central core and the Westside Marketplace. The purpose of the strategy is to improve mobility and safety for all modes, connect major activity centers, maximize economic development opportunities, and provide aesthetic improvements to enhance Rolla's unique identity and sense of place.

Vision

Develop a transportation system that meets the needs of all people and modes and promotes a safe, healthy community and economic opportunities for the next 20 years.

Goals

- Develop a safe and convenient transportation environment.
- Promote alternative mobility choices.
- Develop a multimodal transportation system that promotes economic opportunities.
- Create a sense of place.

Analysis

MoveRolla was developed through a technical analysis of exiting and future conditions, review of study area plans including the *Missouri S&T Campus Master Plan*, the *Westside Marketplace Development Plan*, *Rolla West Master Plan*, and the *Phelps County Regional Medical Center Master Plan*. Input was also gathered from the project core team, stakeholders and the public.

Mobility

- The heaviest vehicle demand along Bishop Avenue occurs at the 10th Street, Kingshighway, and Highway 72 intersections.
- The heaviest pedestrian demand along Bishop Avenue is at 10th Street.
- 12 percent of through traffic on Bishop Avenue is truck traffic.

Safety

- Bishop Avenue represents 66 percent of total arterial crashes in the study area.
- The crash rate on Bishop Avenue is 2.7 times the statewide average.
- Bishop Avenue represents 50 percent of the total pedestrian crashes in the study area.

Growth

- Missouri S&T is experiencing significant growth in enrollment.
- The Phelps County Regional Medical Center is undergoing a significant expansion including the construction of the new Delbert Day Cancer Institute.
- The Westside Marketplace will bring regional retail to Rolla West.

Key Highlights

- Conversion of US Highway 63 (Bishop Avenue) to a Complete Street. The **Bishop Avenue Complete Street** will reduce traffic speeds, provide a safe bicycle and pedestrian environment and visually enhance what many consider Rolla's main street.



Bishop Avenue Complete Street improvements could include the reduction of one travel lane. The lane could be repurposed for wider sidewalks, a dedicated bike lane and landscape treatments as shown above.

- Prior to the implementation of the Bishop Avenue Complete Street, the **Highway 72 Extension** will be constructed to serve Rolla through traffic providing congestion relief for Bishop Avenue and Kingshighway. These projects would include close coordination between the City and the Missouri Department of Transportation (MoDOT).
- Other key improvements include a **new I-44 frontage road** and **10th Street overpass** connecting to the Westside Marketplace.
- These multimodal transportation network improvements will **connect major activity centers** including the downtown Rolla business district, Missouri S&T, Phelps County Regional Medical Center, and the Westside Marketplace.

The full list of improvements are described and shown on the inside page.

Fact Sheet

September 2015

MoveRolla Transportation Strategy

Multimodal Network Improvements

The following multimodal transportation network improvements and initial phasing is based on feedback received from the project core team and stakeholders. We would like your feedback on the improvements and phasing by September 2015.

Phase 1 Improvements:

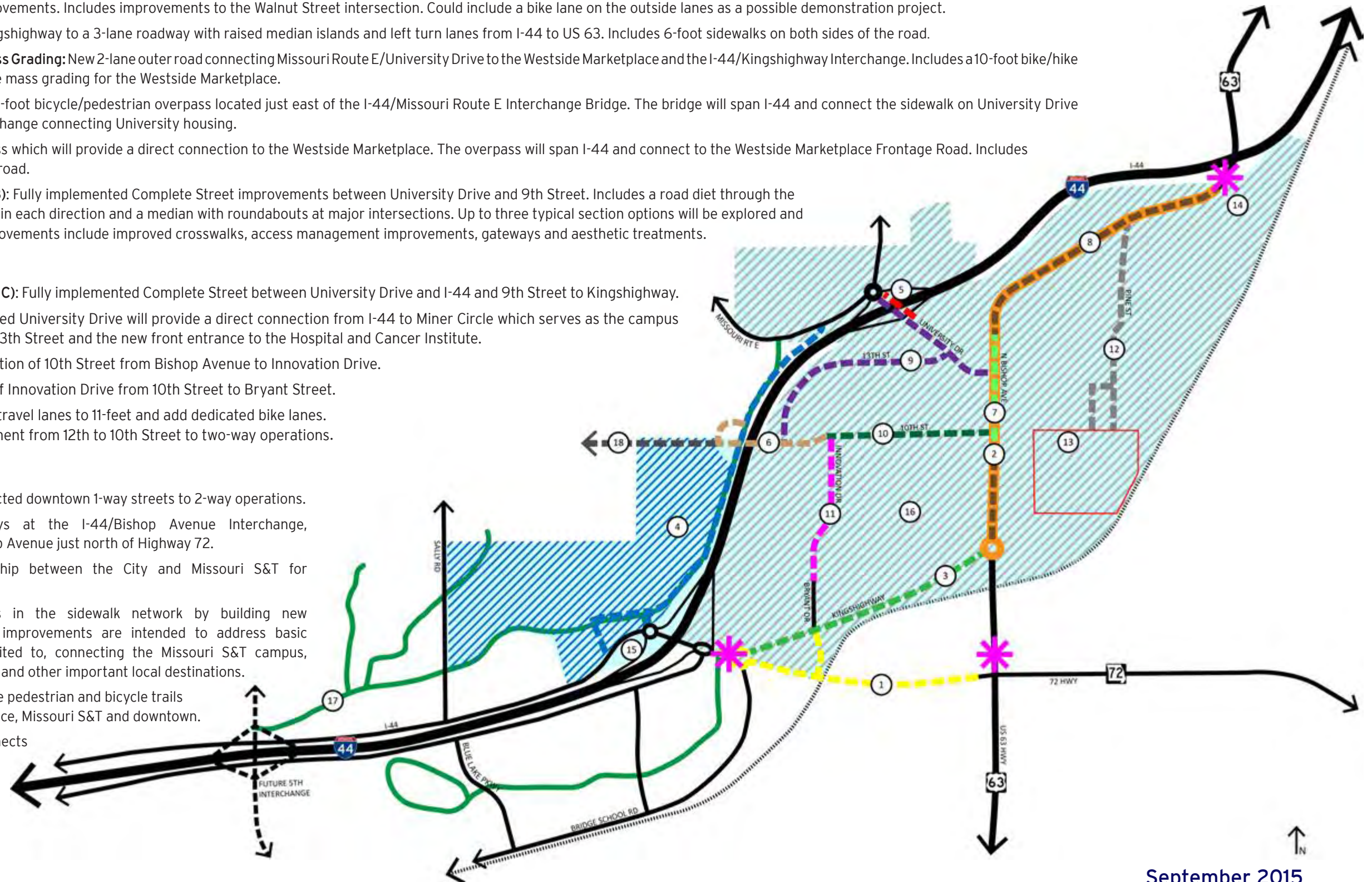
- ① **Highway 72 Extension:** Extends a 4-lane Highway 72/Ridgeview Road to the I-44/Kingshighway interchange. Includes 6-foot sidewalks on both sides of the road. Will provide significant congestion relief for Bishop Avenue and Kingshighway.
- ② **Bishop Avenue Complete Street (Phase A):** Interim improvements along Bishop Avenue that do not require major geometric modifications including improved pedestrian signal timing, signage and wayfinding, access management strategies and policies and aesthetic improvements. Includes improvements to the Walnut Street intersection. Could include a bike lane on the outside lanes as a possible demonstration project.
- ③ **Kingshighway Improvement:** Improve Kingshighway to a 3-lane roadway with raised median islands and left turn lanes from I-44 to US 63. Includes 6-foot sidewalks on both sides of the road.
- ④ **Westside Marketplace Outer Road and Mass Grading:** New 2-lane outer road connecting Missouri Route E/University Drive to the Westside Marketplace and the I-44/Kingshighway Interchange. Includes a 10-foot bike/hike trail on one side of the road. Would include mass grading for the Westside Marketplace.
- ⑤ **I-44 Pedestrian Bridge:** New dedicated 10-foot bicycle/pedestrian overpass located just east of the I-44/Missouri Route E Interchange Bridge. The bridge will span I-44 and connect the sidewalk on University Drive to White Columns Drive north of the interchange connecting University housing.
- ⑥ **10th Street Overpass:** New 2-lane overpass which will provide a direct connection to the Westside Marketplace. The overpass will span I-44 and connect to the Westside Marketplace Frontage Road. Includes a 10-foot bike/hike trail on one side of the road.
- ⑦ **Bishop Avenue Complete Street (Phase B):** Fully implemented Complete Street improvements between University Drive and 9th Street. Includes a road diet through the reduction of a travel lane leaving one lane in each direction and a median with roundabouts at major intersections. Up to three typical section options will be explored and discussed with the community. Other improvements include improved crosswalks, access management improvements, gateways and aesthetic treatments.

Phase 2 Improvements:

- ⑧ **Bishop Avenue Complete Street (Phase C):** Fully implemented Complete Street between University Drive and I-44 and 9th Street to Kingshighway.
- ⑨ **University Drive Realignment:** A realigned University Drive will provide a direct connection from I-44 to Miner Circle which serves as the campus front door. Includes improved access to 13th Street and the new front entrance to the Hospital and Cancer Institute.
- ⑩ **10th Street Reconstruction:** Reconstruction of 10th Street from Bishop Avenue to Innovation Drive.
- ⑪ **Innovation Drive Extension:** Extension of Innovation Drive from 10th Street to Bryant Street.
- ⑫ **Pine Street:** The project will narrow the travel lanes to 11-feet and add dedicated bike lanes. Includes conversion of the one-way segment from 12th to 10th Street to two-way operations.

Phase 3 Improvements:

- ⑬ **Downtown Circulation:** Conversion of selected downtown 1-way streets to 2-way operations.
- * ⑭ **Gateway Improvements:** New gateways at the I-44/Bishop Avenue Interchange, I-44/Kingshighway Interchange and Bishop Avenue just north of Highway 72.
- ⑮ **Public Transit Improvements:** Partnership between the City and Missouri S&T for expanded public transit service.
- ⑯ **Sidewalk Improvements:** Address gaps in the sidewalk network by building new or replacing aging sidewalks. Sidewalk improvements are intended to address basic pedestrian needs including, but not limited to, connecting the Missouri S&T campus, downtown, adjacent neighborhoods, parks and other important local destinations.
- ⑰ **Greenway/Trails:** New 12-foot multipurpose pedestrian and bicycle trails connecting Rolla West, Westside Marketplace, Missouri S&T and downtown.
- ⑱ **10th Street Extension to Sally Road:** Connects the 10th Street Overpass to Sally Road.



MoveRolla

TRANSPORTATION STRATEGY

APPENDIX A.4

SEPTEMBER 14, 2015

OPEN HOUSE COMMENTS



**MOVEROLLA MEETING
SEPTEMBER 14, 2015
General Comments**

From: Charlotte Wiggins [<mailto:4charlottewiggins@gmail.com>]

Sent: Tuesday, September 15, 2015 6:47 AM

To: Steve Hargis; John Butz; Lou Magdits; Monty Jordan; Jim Williams; Brian Woolley

Subject: Input to Rolla Regional Transportation Strategy

I am writing concerning the city's proposed Rolla Regional Transportation Strategy presented September 14, 2015 from 5-7 pm at city hall.

It is my understanding city staff have told the council the proposed outer road from exit 184 to 185, including a proposed vehicular/pedestrian/bicycle overpass at 10th street, won't impact our single family neighborhood. Not only will it change the character of the residential neighborhood currently with three dead ends but contrary to what I understand city council members have been told, there are two residents very much alive on Bluebird Lane, Dr. Earl Richards and myself. Neither one of us built our \$300,000+ homes hoping a huge arterial bypass road would cross through our properties nor are we interested in having the currently zoned R-1 property changed to multi-family and adversely impacting our property values for the whole area. Mayor Magdits and John Butz have been guests at my home so they should know Bluebird Lane is not vacant. What other misinformation is being provided the council? As a former city council member, I respectfully request city staff and leadership provide the council with accurate information.

When I told John Butz at the strategy open house last night a contractor had advised me yesterday to wait to invest \$10,000 in my Bluebird Lane property he agreed and said I should wait until spring. Thanks for the tip so what's next, property condemnation? Or is the developer going to buy us out as part of the shopping center development agreement, is that why he wants to meet with neighbors to discuss in October? How about showing some respect to tax-paying residents and being above board on what you have decided to do with our properties?

I have invited the city council to tour the area. I understand Mayor Magdits was out here a month ago and Mr. Williams has already been in the area. Several other council members tell me they plan to visit shortly and I appreciate them taking the time to visit so they can be better informed.

I also respectfully request the city go back to the drawing board and look at other options besides destroying this charming residential neighborhood. I chose to live in Rolla and build in this residential neighborhood investing 35 years in my garden and home because I was repeatedly told I was living on a dead end street that would never be developed. This should not cost me, and my neighbors, our private homes.

Thank you.

Charlotte Ekker Wiggins
1001 Bluebird Lane
426-3510 evenings
573-466-3750 cell

9/15/2015 8:34 a.m. e-mail from Charlotte Wiggins

Highway patrol not interested in first option so Vista Drive with six homes and Hyer Court with five homes will be directly impacted not counting impact to my property.

Thanks! Charlotte

- 9/21/2015 e-mail

Thank you for graciously indulging us earlier tonight. For some of my neighbors, this was their first time to see their city government at work and I was glad you created an environment where they felt welcome to share their perspective on what's being proposed for our neighborhood.

In response to May Magdits' question about where conflicting information is coming from, I called one of our neighbors currently out of town with family, Elaine Grover. She was the one who first told me the city was proposing an outer road along the highway and, if that didn't work, recommending it go down Vista.

When I asked her where she had heard about the Vista Drive alternative, she said John Butz told her that when she and Diane Block paid him a visit a couple of weeks ago.

I ran out of time to make copies of my statement before making tonight's meeting – I still don't have the hang of how long everything takes to do with just one hand – so here it is:

I'm Charlotte Wiggins. I live at 1001 Bluebird Lane off Highway E with 11 other families.

My neighbors and I attended the city's transportation strategy open house on September 14, 2015. I am taking this opportunity to provide my input for the official record.

The city has plans for \$58 million dollars worth of road projects including an outer road to guide traffic to a proposed shopping center next door to an existing single family residential subdivision.

A highway overpass is proposed through the same 12 homes at 10th Street to resolve a glut of traffic the hospital and university will generate as they expand.

Question 1: Has the city approached the hospital and university about channeling the traffic on their side of the highway? Since those entities already own most of the originally private property and have their own revenue sources, they could financially contribute to solving the traffic problem they themselves are creating.

Question 2. In terms of the proposed outer road from exit 184 to 185 hugging the highway but increasing traffic through a residential neighborhood. It's our understanding the highway patrol doesn't want a road there for safety reasons. City planning and zoning laws require buffers when placing non-compatible uses next to each other. A major traffic road is not appropriate through a single family neighborhood so where are the proposed buffers? A grove of trees or a sound wall would be two possible options. Our neighborhood already successfully worked with the highway patrol to get a sidewalk on highway E for the safety of walkers and bikers.

If that outer road trajectory is not possible, that leaves the city with bringing the outer road through Vista Drive. That will take out at least three existing homes and front lawns of five more. If you add the 10th street overpass, the required span across the highway would also take out the backyards of these homes plus several more and move the road to a limestone hill ridge with a deep slope, which would be very expensive to build on and maintain.

Question 3. Since this is about moving traffic to the shopping center, would the developer consider moving the phase 2 building to the south side of the shopping center, away from existing residential properties, and use a periphery shopping center road to guide shoppers to retailers?

Question 4. Phase 2 of the shopping center is being proposed for property currently zoned single-family and on a hillside. Should heavy construction take place it will damage nearby neighborhood home foundations, it's why I had to move the location of my home when I built it in 1982. Commercial development next to residential is also not a compatible use but I didn't see any proposed buffers. If this proposed building is not moved, I respectfully request

- a. Sound and light cancelling buffers at least 200 yards away from the nearest private property line on Vista Drive and Bluebird Lane;
- b. property insurance coverage from developer to pay for damage to existing homes from nearby construction blasting and soil movement,
- and
- c. that any further development plan not be approved by the city without public review of the proposed buffers.

It's my understanding the city still has time to make adjustments to the proposed plan before it's presented to the council Oct. 19 for a vote and I would appreciate your consideration of these alternatives.

I will be glad to answer any questions and thank you for letting me add my comments to the city's official record.

End

Thanks again for your time!
Charlotte

- Would like a color copy of big map.
Josh Meyer
1000 Vista Drive
Rolla, MO 65401
368-9939
- Please carefully consider your zoning—if you develop westside market, you have commercial zoning then going east 12 homes followed by businesses—hwy. patrol driver examinations. You will seriously hurt the ability of these 12 owners to resell. These

houses are much too nice—valued at \$200,00 & more. The noise level is already too high. You cannot hear someone unless they are looking at you when they speak. Property near a highway or access road should be commercial. If you do this you should buy out these homes.

Diane Howard
1008 Vista Drive
Rolla

- #4 - #17 - #6
To do this you will have to dislocate a 92 year old man. He has lived there for decades and plans to die there, the same home his wife died in eleven years ago. Please delay or change this project. It is cruel to take this amazing man's home so late in life. Please find a way to NOT take this man's home while he is still living.
Bonnie Cox
8 Hyer Ct.
- Medians on Kingshighway & Bishop may impede access to businesses.
Limit roundabouts to I-44 area.
Roundabouts on 63 would be a big headache—reference to Forum Ave.
Just do Bishop changes and University area.
Do not make Bishop smaller. 72 Extension will help with traffic.
Strength of 3 is that it's a north to south multi-state route.
Cheryl Goltz
Box 644
Rolla, MO
426-3461
- I think the seventy-two project would be a good way to relieve some of the heavy traffic from Kingshighway. It's very much needed! The sooner the better.
Lynn Payne
807 Ridgeview Rd.
Rolla, MO 65401
573-364-4088
- Semis & other commercial vehicles are using my street (Ridgeview) more than they should be (in a residential) area. I would like to stop or have an option to sell &/or relocate.
Victor Payne
807 Ridgeview
573-364-4088
- We don't want any change in Vista Drive. This would mean don't take Dr. Earl Richards' house and don't take Charlotte Wiggins' home on Bluebird Lane.
Dr. Carl James
#6 Hyer Ct.
Rolla
364-3320

- The proposed route that goes through the Missouri State Highway Patrol grounds would cause several issues. First being, it would allow traffic to come too close to our building and officers, which is a safety concern. This proposal would remove the buffer zone that we now have. Second, it would take out a portion of our CDL lot, which is used every week day to certify CDL drivers. There is also no room to expand the lot in another direction. Third, we are next in line to receive a new troop building. The current proposal would affect the area that we had planned to build our new troop.

Missouri State Highway Patrol
 Lt. Jeffery A. Bair
 P.O. Box 128
 Nagogami Road
 Rolla, MO
 573-368-2345
- None of these proposals make much sense if the Hwy. 72 extension is not done. That project will remove a vast amt. of traffic of 63N and Kingshwy. Coupled with the 10th Street extension and an improvement on 63 as it parallels 44 will significantly decrease traffic congestion. The approaches, roués, etc. that facilitate the Rolla West project have to stand on their own.

P. Hooson
 13490 CR 4060
 341-3209
- I travel Kingshighway every day. Traffic is always backed up. 72 Extension would ease traffic flow not only on Kinghighway but also 63. Rolla needs to grown and create more jobs for people. These improvements are needed to help us secure the west side.

Bruce Gilbert
 P.O. Box 309
 Newburg, MO 65550
 573-762-3763
- Rolla needs the westwide development. We as a city have become stagnant without any kind of growth. Not only will this bring the city income but it will help our citizens to gain employment opportunities. I look forward to seeing Rolla grow.

Janice Gilbert
 P.O. Box 309
 Newburg
 Property: 1003 Ridgeview
 573-762-3763
- Keep Kingshighway and beyond I-44 good for cycling. Look for ways to allow cyclists to access the 72 extension. I prefer wide outside lanes for cycling without a bike lane stripe. Anytime a bike lane is considered, you should evaluate a wide unstriped lane to see if that might be safer for cyclists.

Greg Harris
 304 Victoria Lane
 Rolla, MO 65401
 573-202-9632

**MOVEROLLA MEETING
SEPTEMBER 14, 2015**

- S-3 Acct. 8054.00 Payne, Victor & Roy, 807 Ridgeview Road
 Contact Name: Victor Payne, 573-364-4088
 How do I stay up-to-date on this?
 OK with it.
- S-8 Acct. 8029.00 Wheeler, Jack & Kathy, 915 Ridgeview Road
 Contact #: 573-308-5570
 My house needs some updates. I've been putting this off for years. I need to
 know something one way or another, as soon as possible! I'm ready to sell and
 move on w/downsizing. I'm a widow and can't keep things up by myself. Please
 let me know something! Please! Kathy Wheeler
- S-9 Acct. 8028.00 Marlene & Clarence Boulch, 1001 Ridgeview Road
 Contact: Clarence or Marlene Boulch, 573-743-6231
 Address: 415 Little School Cr. Rd.
 Steelville, MO 65565
- S-10 Acct. 8027.00 Gilbert, Bruce, 1003 Ridgeview Road
 Contact Name: Bruce Gilbert: Work # 573-341-2020
 Janice Gilbert: Work #573-458-7299
 Gilbert Home: 573-762-3763
 Gilbert E-mail: budd-yg@hotmail.com
- Rolla is in need of the West Side Market Place and in order for this to happen
the 72 Bypass is necessary. The way traffic is now on Kingshighway during
noontime and at five makes it almost impossible to get anywhere in a timely
manner.
We are excited for this to happen to Rolla—all the new businesses are needed.
- S-14 Acct. 8025.00 Brinkman, Richard & Monica, 1151 Lynwood Drive
 We will sell!
- S-15 Acct. 8024.00 Matlock, Matthew & Trudy, 1150 Lynwood Drive
 Contact: Matthew Matlock, 364-0037
 We own 3 parcels of land—one of which is not in the pink hi-lighted area of
 land. This parcel would need to be purchased as well.
- S-16 Acct. 9650 Brotherton, Celia, 103/105 Bryant Road
 Contact: Celia Brotherton 573-263-4750
- I have lived here all my life. I took care of both of my parents as they passed
away forsaking a career. I have been a nurse now for ± 12 years.

I inherited my property from my parents and have tried to work on these houses as money permits; and have attempted to follow city edicts which have descended upon me in so much regularity as to border on harassment. What work that I have done is never enough! In attempting to hire people to perform work on these houses, break-ins occur. Even new doors did not prevent a break-in.

I believe that through all this God has a plan and will eventually help me to understand why I should be outcasted in a community where I have lived all of my life. For this action has left me feeling this way.

I feel for all those who will be displaced due to greed. Those who have built a life here and who have limited means to take care of themselves after being moved out of a life-long residence; i.e. retirees/disabled.

- T-2 Acct. 9582.00 Richards, Earl, 1000 Bluebird Lane
50 yr. resident in this area.
Purchased the property knowing the development of Rolla was to the east. The development of the hospital is also in the east direction with the north entrance the most busy. I'm ninety-two and intend to die at 1000 Bluebird. M S & T entrance is off Highway "E" not at 10th Street. The terrain of the area is inappropriate for commercial development—landlocked between Hwy. "V" and the east exit.
Development of Rolla West as preferred will destroy a second generation of nicely developed homes?
To destroy a developed neighborhood for the development is inappropriate.
- T-3 Acct. 9522.00 Williams, Harry & Keeney, Cathy, 1002 Vista Drive
Due to death of mother and funeral, not here.
Below in comments of Williams & Keeney page:
Robert & Diane Block
1004 Vista Drive
Rolla, MO 65401
573-578-2164
Bottom Line
If you are going to destroy neighborhood, then have the decency not to leave any neighbors stuck with worthless property.
This is a safe place. The drivers on I-44 see a nice area instead of something like the area when you come into the town eastbound.
- U-8 Acct. #7100.01 Rome ETAL, Daniel, 803 W. 13th St.
Contact Name: Nassreen & Roger Rome, 816-714-4878

MoveRolla

TRANSPORTATION STRATEGY

APPENDIX A.5 ASSUMED TRAFFIC ANALYSIS IMPROVEMENTS

Table A.4.1: Preliminary Recommended Improvements Signals Option

Intersection	Improvement
SB I-44 ramps at US-63	No improvements needed
NB I-44 ramps at US-63/Walnut	No improvements needed
US-63 & Pine	No improvements needed
US-63 & Vichy	No improvements needed
US-63 & University	University Drive is realigned to Minor Circle
US-63 & 12th Street	New 4-lane road realigned University Drive connection to US-63 & Miner Circle
US-63 & 10th Street	No improvements needed
US-63 & Kingshighway	Intersection geometric modifications
US-63 & Highway 72	Add left turns to all four legs
SB I-44 ramps at University	No improvements needed
SB I-44 ramps at Kingshighway	Reconfigured 2-lane roundabout and restriped 4-lane bridge over I-44
NB I-44 ramps at Kingshighway	Reconfigured 2-lane roundabout and restriped 4-lane bridge over I-44
Kingshighway / Bridge School Road / Highway 72 Bypass	New 2-lane roundabout



MoveRolla

TRANSPORTATION STRATEGY

Table A.4.2: Preliminary Recommended Improvements Roundabout Option

Intersection	Improvement
SB I-44 ramps at US-63	No improvements needed
NB I-44 ramps at US-63/Walnut	New single lane roundabout with bypass lanes
US-63 & Pine	New single lane roundabout
US-63 & Vichy	New single lane roundabout
US-63 & University	University Drive is realigned to Minor Circle
US-63 & 12th Street	New double lane roundabout realigned University Drive connection to US-63 & Miner Circle
US-63 & 10th Street	No improvements needed
US-63 & Kingshighway	New double lane roundabout with bypass lanes Add left turns to all four legs
US-63 & Highway 72	No improvements needed
SB I-44 ramps at University	Reconfigured 2-lane roundabout and restriped 4-lane bridge over I-44
SB I-44 ramps at Kingshighway	Reconfigured 2-lane roundabout and restriped 4-lane bridge over I-44
NB I-44 ramps at Kingshighway	New 2-lane roundabout

