

EXECUTIVE SUMMARY

INTRODUCTION

The Montana Department of Transportation (MDT) in cooperation with the City of Whitefish and the Montana Federal Highway (FHWA) Division Office used the corridor planning process for a section of U.S. Highway 93 (US 93) within the central portion of the city. US 93 is on the National Highway System and serves as an important north/south transportation route in western Montana. The roadway also functions as one of Whitefish's main arterials accommodating access to commercial, residential, and recreational areas within the community.

The focus of this study encompasses US 93 from its intersection with 13th Street northward along Spokane Avenue to 2nd Street and 2nd Street from Spokane Avenue through Baker Avenue. This area corresponds to the previously established limits for MDT's Whitefish Urban project. A broad study area generally bounded by Karrow Avenue, Railway Street, Somers Avenue, and 18th Street was established to ensure areas beyond the limits of the Whitefish Urban Corridor received consideration.

MDT and FHWA have considered improving US 93 through the community since the late 1980's. An Environmental Impact Statement (EIS) was completed in 1995 that identified necessary improvements for the facility. Design work for two additional reconstruction projects – the Whitefish Urban and Whitefish West projects – began in early 2005. The design of Whitefish West project has advanced, while design work on the Whitefish Urban project was suspended due to increased traffic, changing community conditions and updated local planning documents. This Study allows for evaluation of corridor needs based on the new information and changed conditions.

This Corridor Study was developed concurrently with the Whitefish Transportation Plan, a broad community-wide look at the transportation system and its future needs. The work for the Transportation Plan helped analyze conditions within the corridor and provided an overall framework for recommending corridor improvements.

The study examines the existing transportation system within the corridor and how the system could be improved to meet short and long-term needs. The study process was collaborative and involved MDT, FHWA, the City of Whitefish, a Citizens Advisory Committee (CAC), resource agencies, and the public in helping to identify transportation problems and feasible solutions.

This Corridor Study is a pre-NEPA (National Environmental Policy Act) and pre-MEPA (Montana Environmental Policy Act) study. This study allows MDT flexibility in examining improvement options for the corridor taking into account new information, changed conditions and the Whitefish Transportation Plan.

EXISTING TRANSPORTATION CONDITIONS

The Corridor Study provides a planning level look at the existing road and street network and its operational characteristics. Current traffic volumes, levels of service (LOS), and the recent crash history on US 93 and adjoining roadways were examined to establish existing conditions and operational problems. This review identified the following key findings:

- Traffic volumes on US 93 and other corridor roadways have steadily increased over the last decade above what was projected in the EIS.
- The signalized intersections on 2nd Street at Spokane and Baker Avenues currently function at a poor overall LOS during peak hours.
- Spokane Avenue (north of Riverside Avenue), 2nd Street (west of Baker Avenue), and Baker Avenue (between 6th and 13th Streets) are approaching or exceeding their estimated capacity volumes.
- Truck traffic along the US 93 corridor occasionally inhibits traffic flows and affects operations at intersections in the downtown area. 2nd Street's intersections with Spokane and Baker Avenues – cannot accommodate the full range of truck movements.
- The types of collisions (rear-ends, right-turn and right-angle collisions, sideswipes, and left turn collisions) seen within the corridor are typical of roadways experiencing periods of traffic congestion.
- Spokane Avenue, 2nd Street, and Baker Avenue are part of the City of Whitefish's existing and planned pedestrian and bicyclist trail network
- Whitefish is well served by rail transportation; however, other forms of public transportation are seasonal or focused on special needs groups.

COMMUNITY CHARACTERISTICS

The population growth trends, household characteristics, and employment patterns are key factors in gauging transportation needs with this corridor. The key findings were:

- Population estimates show Whitefish as the fastest growing incorporated area in Montana over the 2000 to 2008 period.
- Health and professional services, retail trade, and services associated with the tourism industry constitute the primary employers.

- Growth Policy projections shows the City’s population could range from 8,800 to 14,600 residents and the City’s planning jurisdictional area could have between 14,800 and 27,800 residents by the year 2030.
- The Whitefish travel demand model projects the number of housing units could increase by nearly 6,900 and more than 5,700 jobs could added by the year 2030.
- While the downturn in the national economy in recent years has slowed growth and economic development, it is likely that Flathead County and the City of Whitefish will remain among the state’s top growth areas over the long term.

ENVIRONMENTAL SCAN

An environmental scan was conducted to identify environmental issues with the potential to influence the type, location, or design of improvements to US 93 within the corridor. The most notable environmental considerations identified through this effort include:

- The potential effects to the Whitefish River and associated riparian wetlands,
- The potential to encounter contaminated sediments at several locations where Spokane and Baker Avenues cross the river;
- The existence of historic-age properties along corridor roadways; and
- The potential for noise levels to increase at some residences along Spokane and Baker Avenues as traffic volumes grow.

Future NEPA/MEPA compliance processes must consider these and other potential environmental effects from corridor improvements.

FUTURE TRAFFIC CONDITIONS AND TRANSPORTATION NEEDS

Future traffic conditions on the US 93 corridor were assessed based on operational analyses using the results of travel demand modeling for the year 2030. The travel demand model takes into account socio-economic characteristics and growth projections for the community through the allocation of new housing units and employment. These allocations were consistent with the assumptions about future growth and development from the Growth Policy.

- The travel demand model forecasts increases in traffic volumes throughout the Whitefish area by the year 2030. These future modeled traffic volumes all range from 1.2 to 2.0 times higher than modeled volumes for existing conditions.



- Numerous segments on the US 93 corridor and Baker Avenue already operate at or near their capacities; therefore, the ability of these existing roadways to accommodate future traffic flows would continue to decrease as traffic volumes increase .
- By the year 2030, the unsignalized intersections along Spokane and Baker Avenues will operate at a poor LOS for the side street traffic during peak hours. The US 93 through traffic movements continue to operate at an acceptable level.

CORRIDOR ISSUES AND OVERALL VISION

Comments on issues associated with the improvement to US 93 through Whitefish and general community transportation concerns have been received from interested agencies and the public through a variety of past projects. Based on input from past projects and new work done for this corridor study, the following vision statement for the Whitefish Urban corridor was drafted:

“The US 93 Whitefish Urban corridor serves as an important regional and local transportation link and helps support the economic, social, and recreational structure of the community. Future development of US 93 through the Whitefish urban area should effectively serve personal travel and goods movement within and through the corridor and provide safe transportation facilities for residents, community visitors, and through travelers.”

Transportation improvements should provide mobility on the corridor while complementing community land use visions and plans, be adaptable to accommodate future growth, and help maintain or enhance Whitefish’s unique character and quality of life. Transportation improvements should resolve site-specific operational or safety problems along the corridor and be designed and implemented in a way that protects the natural environment.”

A preliminary set of goals and associated objectives to support the vision were developed for review by MDT, FHWA, the City of Whitefish, a CAC and the public. These goals and objectives provided the basis for the development and evaluation of configurations and transportation strategies for the corridor. The corridor vision, goals, and objectives were also determined to be consistent with the purpose and need for improving the US 93 corridor as stated in the U.S. Highway 93 Somers-Whitefish West Final EIS.

CONFIGURATIONS AND STRATEGIES CONSIDERED

A wide variety of configurations incorporating Spokane Avenue, 2nd Street, Baker Avenue and 13th Street as well as other transportation strategies were initially considered to help address immediate and long-term needs within the corridor.

Table 1 provides a complete list of improvement options and strategies initially considered in this study. The table identifies configurations that were evaluated in detail

in the U.S. Highway 93 Somers to Whitefish West FEIS/ROD. The middle column lists the four configurations that have been developed for the corridor since the FEIS/ROD was issued. The right column shows other strategies that may be applicable to the corridor. Many of these strategies were also previously considered in the FEIS/ROD.

Table 1: Improvement Options and Strategies Considered for the Corridor

Configurations Evaluated in the FEIS/ROD	Configurations Developed After the FEIS/ROD	Other Options or Transportation Strategies Warranting Consideration
No-Action Alternative A (Four-Lane) Alternative C (Couplet 1) Alternative C (Couplet 2) Alternative C (Couplet 3) – FEIS/ROD PREFERRED ALTERNATIVE Alternative C (Couplet 4) Alternative C (Offset)	Modified ROD Configuration Contra-Flow Configuration Truck Route Configuration Downtown Business District Master Plan Configuration	Other Options Western Route Alternates (FEIS Bypass Alternatives A-D) Selected Off-system Improvements Indirectly Benefiting the Corridor Transportation Strategies Transportation Demand Management Transportation System Management Transit Improvements Intelligent Transportation Systems

EVALUATION OF CONFIGURATIONS AND STRATEGIES

A multi-step screening process was used to determine how well the configurations and transportation strategies shown above address the goals and objectives for improving the corridor.

The first step in the screening process was a “fatal flaw” review to identify improvements or actions that fail to support the overall goals for the US 93 corridor or that are unrealistic and have little or no reasonable chance of being implemented.

The remainder of the screening process focused on the evaluation of configurations against a comprehensive set of first-level and second-level screening criteria found in **Table 6-2**. Several other considerations were examined to help identify promising improvement options. Each configuration was evaluated against criteria in five additional screening categories including:

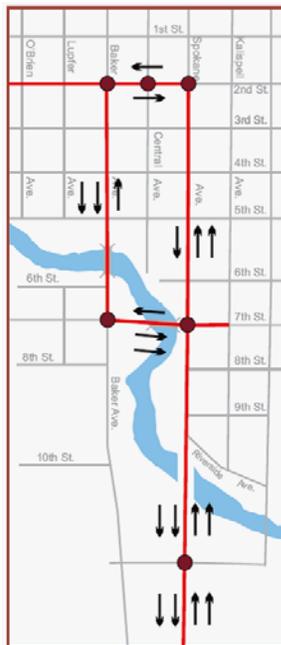
- Safety Considerations,
- Consistency with Applicable Geometric Design Criteria,
- Potential Environmental Effects,
- Feasibility/ Affordability, and
- Compatibility with Local Plans and Community Ideals.

Two configurations— the Alternative C (Offset) Configuration and the Contra-Flow Configuration— were selected for more extensive review based on the results of the screening assessments. These configurations were advanced for the following reasons:

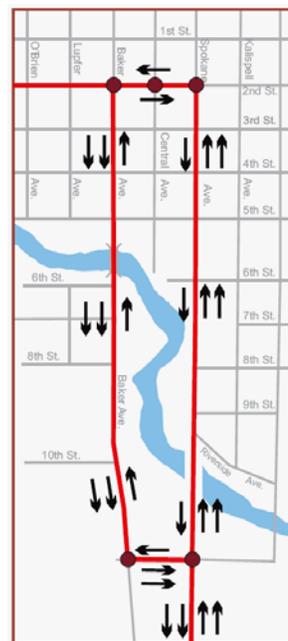
The operational reviews showed the Contra-Flow Configuration ranked as the one of the best performing options under current and future conditions.

Due to the anticipated high cost of providing a bridge at 7th Street and its associated environmental effects, there is merit to evaluating an option that does not include a 7th Street bridge. The Alternative C (Offset) Configuration reflects the existing street network and does not require adding any new roadway links.

The overall performance of the Offset configuration is inhibited by the lack of dedicated turning lanes at the signalized intersections along the corridor, particularly on 2nd Street. Further review showed the operation of the Alternative C (Offset) Configuration can be enhanced by modifying the conditions at the signalized intersections. Therefore, the **Modified Alternative C (Offset) Configuration** was identified as a “new” configuration. Since the Modified Alternative C (Offset) performs better and is more consistent with local plans, the configuration was advanced over the Alternative C (Offset) Configuration (shown below).



CONTRA-FLOW CONFIGURATION



MODIFIED ALTERNATIVE C (OFFSET) CONFIGURATION

The screening process recognizes a balance needs to be struck between the ability to meet current and future transportation needs, the potential environmental effects, the overall cost of implementing corridor improvements, and the desires of the community as

expressed in local plans. The Contra-Flow and Modified Alternative C (Offset) Configurations are both recommended for final consideration. Each of the options has inherent advantages and disadvantages and there are notable tradeoffs with implementing one option over the other. The issues and concerns of importance to future decision-makers are highlighted below.

CAPACITY AND TRAFFIC OPERATIONS

The ability to address current and projected future travel demands is the key operational consideration for the US 93 corridor. Providing a new bridge at 7th Street and extending 7th Street eastward to Kalispell Avenue as called for under the Contra-Flow Configuration could decrease traffic on Spokane Avenue, 2nd Street, and portions of Baker Avenue by 15% to 20%.

The Modified Alternative C (Offset) Configuration relies on the use of Baker Avenue south of 7th Street and 13th Street to accommodate corridor traffic. Cross over traffic between Spokane and Baker Avenues is accommodated at 13th Street instead of by a new connection at 7th Street.

The Contra-Flow Configuration generally outperforms the Modified Alternative C (Offset) under current and future conditions. The operational review showed that under the Contra-Flow Configuration, users would experience fewer delays and could more efficiently travel through the corridor.

Both options provide alternative routes for trucks which could reduce the amount of truck traffic on 2nd Street. The Contra-Flow Configuration would divert truck traffic to Baker Avenue at 7th Street and the Modified Alternative C (Offset) Configuration would divert trucks to Baker Avenue via 13th Street.

SAFETY CONSIDERATIONS

Both options represent an increase in overall safety on US 93 when compared to existing conditions. However, increased left turn conflicts may be expected since southbound traffic on Spokane Avenue and northbound traffic on Baker Avenue would need to cross two opposing lanes. Although the crossing distance would not change, pedestrians crossing Spokane and Baker Avenues would need to cross three travel lanes instead of two lanes.

CONSISTENCY WITH MDT DESIGN STANDARDS

Both options could be designed in a manner that complies with MDT's design guidance for urban principal arterials. Increased corner radii could be provided as needed at Spokane Avenue and 2nd Street and at 2nd Street and Baker Avenue where the current layouts do not accommodate a full range of truck movements.

POTENTIAL ENVIRONMENTAL EFFECTS

The Contra-Flow Configuration depends on the provision of a new connection at 7th Street linking Spokane and Baker Avenues. The new connection occurs at a location

where the Whitefish River channel and its associated riparian zone are substantially wider than other locations in the area. This necessitates the provision of a 500-600 foot-long bridge across the river.

Adding capacity (width) to the existing bridge over the Whitefish River on Baker Avenue would be required for both configurations. Work within the Whitefish River would be subject to federal and state regulations protecting water quality and the City's Critical Area Ordinance.

New right-of-way (including a business acquisition) would be needed to accommodate the construction of 7th Street between Spokane and Kalispell Avenues and the new 7th Street river crossing. The Contra-Flow Configuration may also require the acquisition of new right-of-way along Baker Avenue between the Whitefish River and 7th Street.

With the Modified Alternative C (Offset) Configuration, Baker Avenue between 7th and 13th Streets and 13th Street would need to be rebuilt to provide the desired configuration and accommodate road widening. Additional right-of-way would be required along Baker Avenue in some areas from the Whitefish River crossing to 13th Street.

COST AND AFFORDABILITY

The current cost to construct the improvements associated with Contra-Flow Configuration is estimated to be \$20 million (including contingencies). Providing the required bridge at 7th Street and extending 7th Street east of Spokane Avenue accounts for about half of the total estimated cost.

Cost estimates show the improvements for the Modified Alternative C (Offset) Configuration is \$11 million (including contingencies).

COMPATIBILITY WITH LOCAL PLANS

Both options provide a two-lane configuration and would retain some on-street parking along 2nd Street. With the exception of Spokane Avenue between 7th and 2nd Streets, the lane configuration of the Contra-Flow option is generally consistent with local plans.

FUTURE CONSIDERATIONS FOR THE CORRIDOR

Both the Contra-Flow and Modified Alternative C (Offset) Configurations maintain US 93 traffic on Spokane Avenue and 2nd Street, include upgrades to portions of Baker Avenue between 2nd and 13th Street, and rely on connections at either 7th or 13th Streets to meet future travel demands. Design elements and recommendations from past planning efforts – including the U.S. Highway 93 Somers to Whitefish West FEIS/ROD and local plans – were considered in the development of future improvement options for corridor roadways. These considerations are highlighted below.

SPOKANE AVENUE

- Both configurations provide a three-lane roadway accommodating two northbound

driving lanes, one southbound driving lane along Spokane Avenue north of 7th Street.

- Coordination with the City will need to occur during project development if an improvement option is forwarded to review. The coordination must consider the streetscape enhancements, future operation of US 93 and funding available from the city for the improvements.
- It may be desirable to use landscaped medians and left turn provisions for northbound traffic at several locations to serve commercial uses west of Spokane Avenue between 7th and 13th Streets.
- The large-diameter culverts conveying the Whitefish River beneath Spokane Avenue have considerable remaining service life; however, local preferences are to install a new bridge when the culverts are replaced.

2ND STREET

- Both configurations:
 - Maintain a two-lane roadway within the existing roadway “footprint” that accommodates one lane in each direction and allows for some on-street parking along 2nd Street consistent with local plans
 - Provide appropriate dedicated turn lanes at 2nd Street’s intersections with Spokane and Baker Avenues and prohibiting left turns from 2nd Street onto Central Avenue is required to facilitate traffic operations with either option
 - Require evaluation of traffic signals
 - Require minor right-of-way acquisitions on the intersection of 2nd and Spokane
- A 2006 District Court ruling prohibits MDT from acquiring property from the First American Bank property (located on the northwest corner of the 2nd and Baker intersection) through condemnation. Future improvements to the intersection of would have to be completed without acquiring any right-of-way from American Bank.
- Local plans include recommendations for desired elements and streetscape enhancements along 2nd Street. Coordination with the City will need to be completed to determine funding availability from the city for the enhancements. This would determine if the enhancements are consistent with current MDT design standards.

BAKER AVENUE

- Both configurations provide a three-lane roadway accommodating two southbound driving lanes and a northbound driving lane between 2nd and 7th Streets. The Modified Alternative C (Offset) option continues the three-lane configuration south of 7th Street to 13th Street.

- The existing bridge structure over the Whitefish River would need to either be widened or replaced with a new structure to accommodate additional lanes.
- New right-of-way acquisition is anticipated south of the Whitefish River to accommodate roadway widening.

7TH STREET

- The Contra-Flow Configuration would provide a three-lane roadway accommodating two eastbound driving lanes and a westbound driving lane between Spokane and Baker Avenues. The Modified Alternative C (Offset) Configuration would not provide a roadway connection at 7th Street.
- The Contra-Flow Configuration would provide a new connection between Spokane and Kalispell Avenues. New right-of-way (including a business acquisition) would be needed to accommodate the construction and the new river crossing.
- The installation of traffic signals and the addition of appropriate turn lanes would be necessary at the intersections with Spokane and Baker Avenues.

13TH STREET

- The Modified Alternative C (Offset) Configuration would provide a three-lane roadway accommodating one westbound driving lane and two eastbound driving lanes between Spokane and Baker Avenues. The Contra-Flow Configuration would not involve any improvements to 13th Street.
- A new traffic signal and dedicated turn lanes would be needed at the intersection of Baker Avenue and 13th Street.
- Areas of new right-of-way acquisition may be necessary along Baker Avenue south of the Whitefish River to accommodate roadway widening and the provision of dedicated turn lanes at Baker Avenue and 13th Street. Existing commercial buildings along 13th Street limit available right-of-way

PEDESTRIAN AND BICYCLIST

- Consider the policies and recommendations for pedestrian and bicyclist facilities identified in local plans and coordinate with the City concerning future corridor improvements.
- Ensure that sidewalks at least 5-feet wide are provided along each side of corridor roadways and install or modify curb ramps at intersections where needed to meet current Americans with Disabilities Act (ADA) requirements.
- Right-of-way limitations and traffic operations likely preclude the addition of bicycle lanes along both sides of 2nd Street; however, consideration should be given to providing 5-foot wide bicycle lanes along each side of Spokane and Baker Avenues if a project is forwarded.

CORRIDOR IMPROVEMENT PRIORITIES

This study outlines a desired sequencing for implementing the recommended improvements. The recommended sequencing recognizes that funding for corridor improvements will likely be limited over the foreseeable future. Another consideration for determining a desired sequencing for improvements was the need to have adequate alternate routes for local and through traffic in place during reconstruction activities on Spokane and Baker Avenues.

Given the funding situation and other uncertainties related to the timing of downtown redevelopment projects, there was no attempt to identify when the recommended improvements should be implemented over the planning horizon for the corridor study. However, the following priorities were established for implementing corridor-related improvements:

CONTRA-FLOW CONFIGURATION

- PRIORITY 1: 2nd Street Improvements and Signal Upgrades
- PRIORITY 2: Add Capacity to the Baker Avenue Bridge
- PRIORITY 3: Baker Avenue Reconstruction/Upgrades
- PRIORITY 4: 7th Street Bridge and 7th Street Connection
- PRIORITY 5: Spokane Avenue Reconstruction/Upgrades

MODIFIED ALTERNATIVE C (OFFSET) CONFIGURATION

- PRIORITY 1: 2nd Street Improvements and Signal Upgrades
- PRIORITY 2: Add Capacity to the Baker Avenue Bridge
- PRIORITY 3: Baker Avenue and 13th Reconstruction/Upgrades
- PRIORITY 4: Spokane Avenue Reconstruction/Upgrades

ESTIMATED COSTS FOR CORRIDOR IMPROVEMENTS

Planning-level cost estimates were developed for the two corridor improvement configurations under review. The estimates include construction costs based on typical unit costs for recent MDT highway projects, a representative cost for right-of-way, and costs for mobilization and contingencies. The estimates provided in **Table 3** are very preliminary and may change substantially based on more detailed engineering and design activities.

Table 3 shows the estimated current total cost of improvements to these roadways under the Contra-Flow Configuration ranges from \$20.81 million as compared to \$10.86 million for the Modified Alternative C (Offset) Configuration. These cost estimates do not include providing a new bridge for the Whitefish River on Spokane Avenue. Replacing the culverts beneath Spokane Avenue with a bridge and making locally desired non-motorized trail connections would increase the estimated cost of each configuration by about \$4.6 million.

Table 3: Estimated Construction Costs for Corridor Improvements

CONTRA-FLOW CONFIGURATION

Associated Improvements	Current Cost (in millions)
2nd Street Improvements and Signal Upgrades	\$2.02
Add Capacity to the Baker Avenue Bridge	\$1.45
Baker Avenue Reconstruction/Upgrades	\$2.07
7th Street Bridge and 7th Street Connection	\$11.22
Spokane Avenue Reconstruction/Upgrades*	\$4.05
TOTAL	\$20.81M

* Does not include the cost of replacing the culverts for the Whitefish River on Spokane Avenue with a new bridge.

MODIFIED ALTERNATIVE C (OFFSET) CONFIGURATION

Associated Improvements	Current Cost (in millions)
2nd Street Improvements and Signal Upgrades	\$2.02
Add Capacity to the Baker Avenue Bridge	\$1.45
Baker Avenue and 13th Reconstruction and Upgrades	\$3.79
Spokane Avenue Reconstruction/Upgrades*	\$3.60
TOTAL	\$10.86 M

* Does not include the cost of replacing the culverts for the Whitefish River on Spokane Avenue with a new bridge.

Assuming a 3 percent annual rate of inflation, the cost of projects within the corridor could be 19 percent higher than current estimates by the year 2015 and 86 percent higher than current estimates by the year 2030.

POTENTIAL FUNDING SOURCES AND IMPLEMENTATION

- The improvement options could be eligible to receive National Highway System (NHS) funding if designated as part of US 93 and are eligible for federal and state fund administered through the NHS Program.
- Other local government funding sources could help accomplish portions of the proposed projects, pay for desired amenities, or be used to implement off-system projects that would indirectly benefit the US 93 corridor.

NEXT STEPS

DETERMINE WHICH OPTIONS TO FORWARD INTO PROJECT DEVELOPMENT

The decision makers from MDT and FHWA will need to determine which improvement options, if any, are to be forwarded into project development.

DETERMINE A LONG-RANGE FUNDING PLAN FOR CORRIDOR IMPROVEMENTS

MDT, FHWA and the City of Whitefish will need to develop a funding plan to implement corridor improvements. Committing federal funding to corridor improvements will require that projects be nominated and programmed by MDT through its Statewide Transportation Improvement Program (STIP) process.

MDT and the City of Whitefish would need to develop cost sharing agreements to specify which entity would be responsible for funding the amenities included with the recommended corridor improvements.

COMPLETE THE ENVIRONMENTAL REVIEW PROCESS

Before federal and state funding can be programmed for the corridor improvements and design activities can actually begin, the environmental review process to document NEPA/MEPA compliance must be completed. This process would require the completion of a re-evaluation of the Final EIS as it relates to the Whitefish Urban project area to determine the need for the preparation of Supplemental EIS. FHWA, in consultation with MDT, would need to make a decision about the appropriate environmental review process and ultimately revise the Record of Decision for the Whitefish Urban project area.

BEGIN DESIGN ACTIVITIES FOR CORRIDOR IMPROVEMENT PROJECTS

After completion of the environmental review process and funding becomes available, the design activities can be initiated on recommended improvements projects.

Coordination would need to occur to ensure that designs incorporate any necessary or planned infrastructure work by the City and to identify amenities that would be part of the improvement projects. Design activities would also identify and facilitate necessary right-of-way acquisitions within each project area.