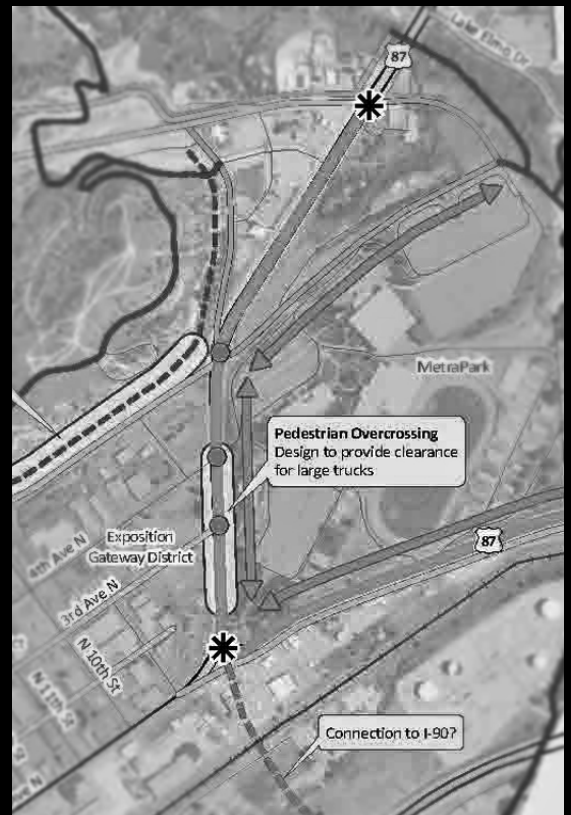


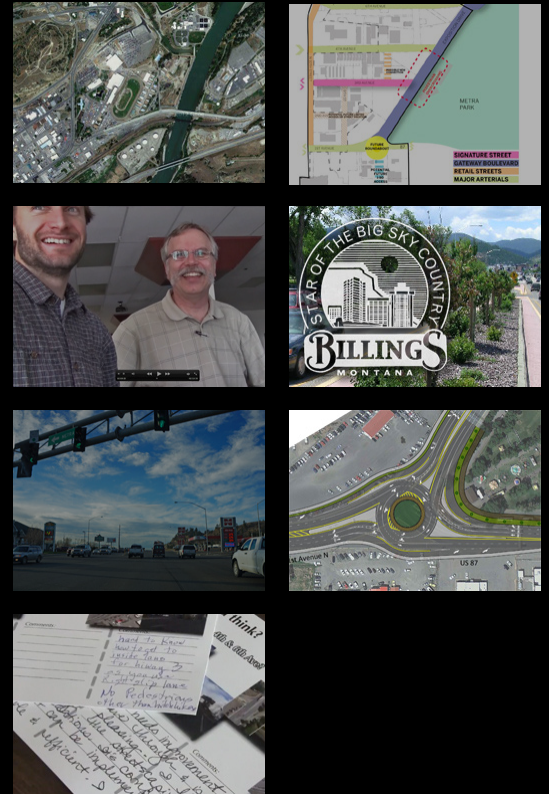
September 2013



City of Billings



Hospitality Corridor Planning Study Final Report



Acknowledgements

In addition to the individuals and agencies listed below, the City of Billings is grateful for the efforts of the numerous community members who participated in this process, guiding the direction of the study and reaffirming community commitment to the success of the Billings Hospitality Corridor area.

Project Steering Committee

Scott Walker
City of Billings

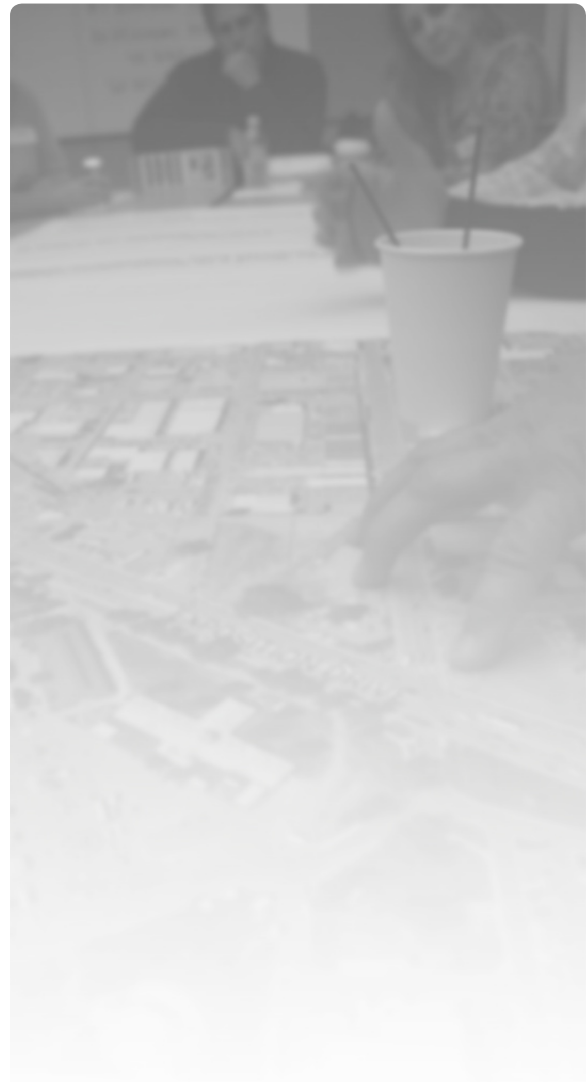
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Planning Context

Introduction

This study provides the City of Billings, Yellowstone County, and the Montana Department of Transportation (MDT) with a unique opportunity to re-envision the US Highway 87/Main Street/Exposition Drive Corridor as a gateway into central Billings. The timing of this study is fortuitous, as it follows on the heels of the Exposition Gateway Master Plan, which evaluated ways to revitalize the land uses surrounding the corridor, including creating better linkages between the East Billings Urban Renewal District (EBURD) and MetraPark.

The goal of the Hospitality Corridor Planning Study is to weave vehicular and non-vehicular needs together to provide a cohesive vision for the corridor, providing safe and comfortable travel for a variety of modes and supporting the City's overall vision of revitalizing the Exposition Gateway District and better connecting with MetraPark.

It is important to note that this process included not only City staff, but representatives from EBURD, MDT and MetraPark. While the study resulted in a corridor vision, further engineering analysis will be needed to confirm that the study's recommendations are feasible and address all needs.



Figure 1.01 – The main objective of this study is to re-envision the US Highway 87/Main Street/Exposition Drive Corridor as a gateway into central Billings, providing design and phased strategic recommendations to achieve it. (Image source: Google Earth™)

This summary document presents study findings arranged in three main parts:

- 1) **Planning Context** – presenting study objectives, other related plans, existing conditions, and near and long-term trends important to the overall Hospitality Corridor planning area.
- 2) **Design Recommendations** – illustrating alternatives considered, proposed improvements for the near-term, proposed improvements for the long-term, and recommended streetscape illustrations.
- 3) **Funding & Implementation** – presenting funding sources



Figure 1.02 – Findings from the recent Exposition Gateway Master Plan were evaluated and integrated with the Hospitality Corridor Planning Study. (Image source: Studio Cascade, Inc.)

and strategies for recommended improvements, plus a draft implementation schedule.

A separate appendix document has also been assembled and delivered to the City, providing additional information on study components and other elements regarding the process and study outcomes.

All sections of this document strive to present information as visually as possible, in most cases using fold-out maps and illustrations.

Process

The City of Billings and its consultant team conducted the Hospitality Corridor Planning Study over the course of nine months, with major milestones/activities listed below:

- *November 2012 – Kickoff advisory committee meeting*
- *December 2012 – Input from Exposition Gateway Master Plan stakeholders, project coordination*
- *January-February 2013 – Literature and background study review*
- *February-March 2013 – Meetings and coordination with MDT*
- *March-April 2013 – Initial alternatives*
- *April 2013 – Concept review with advisory committee*
- *May 2013 – Advisory committee and MDT feedback*
- *June 2013 – Interim and long-term options presented at open house*
- *July-August 2013 – Plan refinement and delivery*

Conditions & Trends

Figures 1.03, 1.04 and 1.05 (fold out pages) illustrate the planning context for this study, show existing conditions along the corridor and future plans for intersections along the corridor from Airport Road to the Lockwood Interchange.

Related Plans & Studies

Over the past decade, numerous plans have been developed which have implications for the Hospitality Corridor. This study works to weave these disparate plans together to provide a cohesive vision for the corridor that provides safe and comfortable travel for a variety of modes. Here's a summary of many of these:

Billings Area I-90 Corridor Planning Study

This MDT study evaluated freeway improvement options on I-90 throughout Billings. Within the Hospitality Corridor study area, it considered short-term improvements to the I-90/Lockwood interchange to widen both off-ramps.

Lockwood Transportation Study

This study evaluated a variety of transportation system improvement concepts in the Lockwood area, including modifying signal timing along US 87 and reconstructing the I-90/Lockwood Road interchange.

6th Avenue/Bench Boulevard Study

This study presented few short-term recommendations, but long-term improvements included consideration of a fly-over connecting 4th Avenue with the 6th Avenue/Bench Boulevard intersection and a roundabout at 1st Avenue/US 87.

MDT Design Standards Document

This document summarizes the minimum MDT standards for urban facilities. Within the study area, Exposition Drive/US 87 is classified as a Principal Arterial, which provides guidance related lane widths, clear zones, and design treatments.

EBURD Master Plan

This plan defined some prototypical streetscape standards, including guidance on lane widths, the presence of street trees, and other modal facilities.

Billings Urban Area Long-Range Transportation Plan

This document identifies long-range transportation projects in the region. The plan roughly identifies an east-west trail in the vicinity of the US 87 bridge over the Yellowstone River and potentially bike lanes along US 87. No other improvements along the study corridor were identified.

Billings Area Bikeway and Trail Master Plan

This document does not identify any facilities on Exposition Drive, but defines a proposed long-range bike lane along US 87 east of Exposition Drive, which extends into the county beyond the Lockwood interchange. The plan also hints at a potential future trail crossing the Yellowstone River alongside US 87.

Metra Park Egress Improvements

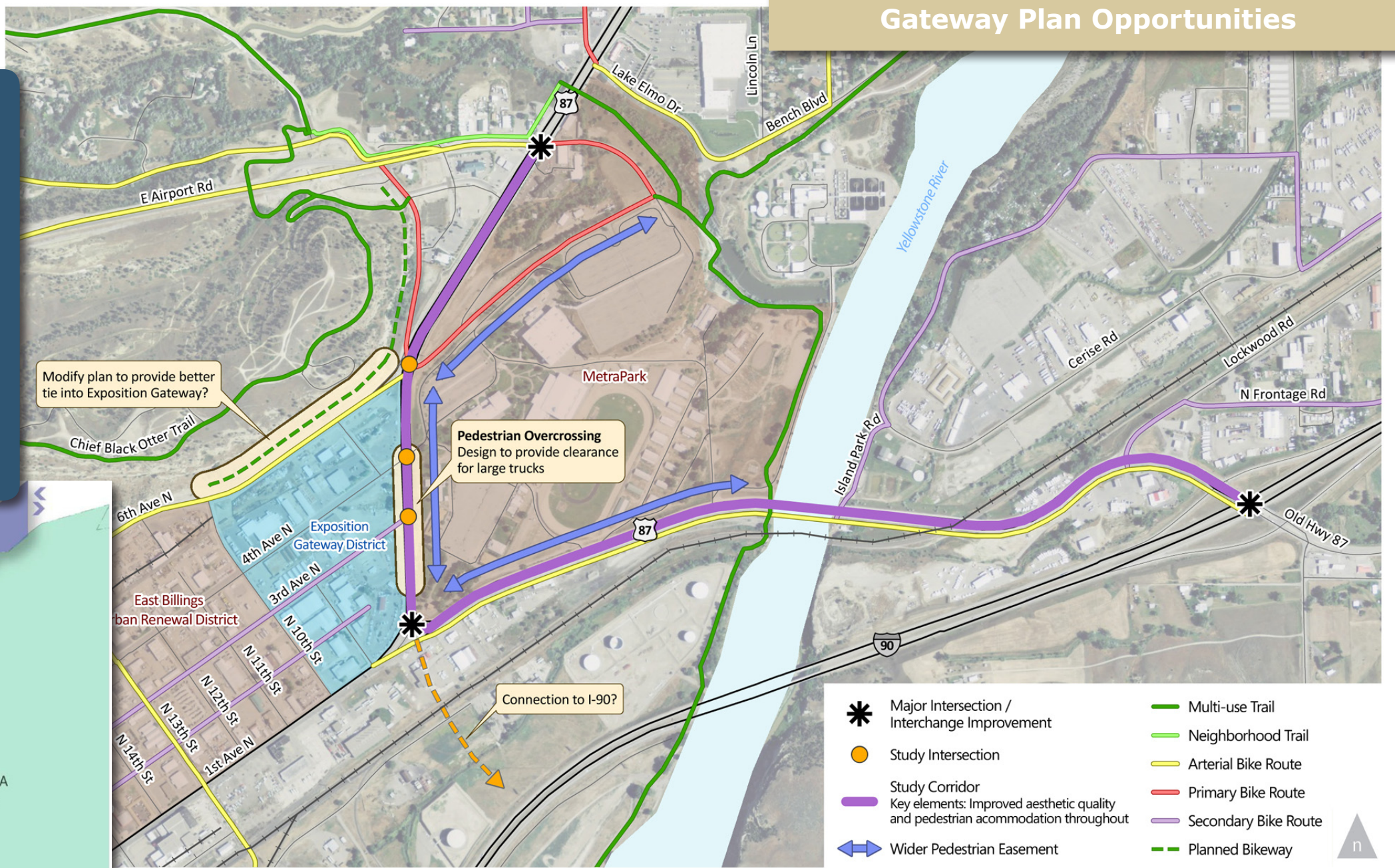
This study evaluates ways to improve the efficiency of traffic circulation during events at Metra Park. The study recommends revisions to the 6th/Bench Boulevard and 4th Avenue intersections.

**“Springboard” opportunity:
Gateway Master Plan**

The timing of the Hospitality Corridor study is fortuitous, since it follows on the heels of the *Exposition Gateway Master Plan*, an effort that researched ways to revitalize land uses surrounding the US 87 corridor, including better ties between the East Billings Urban Renewal District (EBURD) and MetraPark.

Due to similarities in overall goals, the Hospitality Corridor planning team reviewed findings from the Gateway plan, especially those showing how vehicular and non-motorized needs might work together to help revitalize the entire district – including the Hospitality Corridor.

The diagrams here illustrate many of the concepts generated by the Exposition Gateway Master Plan, particularly those related to the corridor.



- * Major Intersection / Interchange Improvement
- Study Intersection
- Study Corridor
- Key elements: Improved aesthetic quality and pedestrian accommodation throughout
- ↔ Wider Pedestrian Easement
- Multi-use Trail
- Neighborhood Trail
- Arterial Bike Route
- Primary Bike Route
- Secondary Bike Route
- Planned Bikeway

**Corridor Planning Study
Integration Concepts**



Figure 1.03 – Ideas and concepts developed for the Exposition Gateway Master Plan, shown here, were reviewed and incorporated into the Hospitality Corridor Planning Study. (Image source: Fehr & Peers)

Existing Context

Airport Road

This intersection has a large footprint, with a seven lane north-south cross-section and a sweeping southbound right-turn onto Airport Road. The Airport Road intersection has been analyzed in many related studies, most recently in the *6th Avenue North/Bench Boulevard Traffic Report* (December 2012). Although it wasn't one of the primary study intersections, it was included in all of the operations analyses completed for that project. For this study, we have taken a deeper look at near-term and long-term options to improve intersection operations.



3rd Avenue

This is a T-intersection, where the raised median limits access to 3rd Avenue only by southbound Exposition Drive. No crosswalk is provided. Pedestrians are expected to use the signalized crossing at 4th Avenue.



4th & 6th Avenues

4th and 6th Avenues create a one-way couplet through the Exposition Gateway district. Given the couplet configuration, these two intersections operate as a system (4th Avenue runs eastbound, 6th Avenue runs westbound). As arterials, both 4th and 6th feature full access, signalized intersections with Exposition Drive. These intersections were a focus in the *6th Avenue North/Bench Boulevard Traffic Report* (December 2012).



1st Avenue/Exposition/US 87

This three-legged intersection is the confluence of 1st Avenue, Exposition Drive, and US 87. This intersection accommodates trucks and fast-moving vehicles with its large, sweeping turns. While sidewalks are provided, there are no pedestrian crossings at the intersection. The nearest pedestrian crossing is at 13th Street (to the west) or at 4th Avenue (to the north). Both of these crossing locations are more than 2,000 feet away, adding about 10 minutes of walking time. This intersection has been analyzed in many related studies, most recently in the *6th Avenue North/Bench Boulevard Traffic Report* (December 2012).

This intersection was also a focus of the February 2013 *Exposition Gateway Master Plan*.



Lockwood Interchange

The I-90 Lockwood interchange has a diamond configuration. Both on-ramps have a single lane, as does the westbound off-ramp. The eastbound off-ramp includes two lanes. Existing and future year operations, including improvement concepts, were analyzed as part of the Lockwood Transportation Study (2007) and re-examined as a part of this study.



Figure 1.04 – This graphic summarizes the existing transportation context along the corridor – describing key conditions that helped shape study proposals. (Image source: Fehr & Peers)

Airport Road

Near Term – Main Street approaches will continue to operate at LOS “D” or better, while eastbound and westbound minor approaches will operate at LOS “F” during peak commute times.

Long Term – Over the next few decades, traffic volumes will continue to grow until the Billings Bypass is constructed. Associated with this growth, delays will increase at this intersection. If the Billings Bypass is not constructed by 2033 (the horizon year of the *6th Avenue North/Bench Boulevard Traffic Report*), this intersection will likely go over-capacity during peak commute hours (LOS F). Construction of the Billings Bypass would divert sufficient volumes for this intersection to continue operations at levels similar to those today.

4th & 6th Avenues

Near Term – Eastbound traffic on 4th is congested at evening peak periods. Given the high volumes along Exposition Drive during evening commute, additional “green time” to 4th would create delays for Exposition. The 6th/Bench Boulevard intersection operates more smoothly during peak commute, largely due to the uncontrolled, sweeping movement from southbound Exposition/Main to westbound 6th. By accommodating this movement separately, the signal will more efficiently control other movements. Despite substantial delays anticipated for 4th, no feasible improvements are identified in the near term.

Long Term – The 6th/Bench traffic study included a long term recommendation to provide a flyover connecting 4th to northbound Exposition. While this would remove the conflict between eastbound and northbound/southbound traffic, it’s a very expensive fix – and has challenges relating to noise, views, and consistency with the *Exposition Gateway District Plan*.

1st Avenue/Exposition/US 87

Near Term – The 6th/Bench study did not identify any near-term need to improve this intersection from an operations standpoint, since peak hour operations are LOS “C” or better. The study did identify the opportunity to provide a west-to-northbound right turn bypass lane to improve flow. The Exposition Gateway project suggest this intersection as suitable for a “grand roundabout” serving as a landmark and help attract attention to the Gateway District and MetraPark.

Long Term – The 6th/Bench study identified a roundabout as a potential enhancement for this intersection. The Gateway Plan also identified the potential for a future connection to I-90 from this intersection, but the timeline for such a connection is likely 50 years or more.

3rd Avenue

Near Term – Limited access and low volumes along 3rd will maintain smooth operations at this intersection. Vehicle and pedestrian volumes are not expected to increase substantially until the Exposition Gateway District develops.

Long Term – The *Exposition Gateway Plan* designates 3rd as a “signature street,” with one-lane of traffic in each direction plus bike lanes and wide sidewalks. Despite these enhancements along 3rd, the study recommends the intersection remain right-in/right-out only with no at-grade pedestrian/bicycle crossing opportunities. The study does recommend that a grade-separated pedestrian crossing be considered at this location or somewhere nearby.

Lockwood Interchange

Near Term – The eastbound off-ramp was recently re-striped to include two lanes. Modeling suggests significant reserve capacity in the near term.

Long Term – The *Lockwood Transportation Study* evaluated widening the off-ramp to three lanes as well as redesigning the interchange as a single point urban interchange (SPUI). That study’s future forecasts did not account for potential volume reductions associated with the Billings Bypass project. With the bypass in place, eastbound off-ramp widening is sufficient.

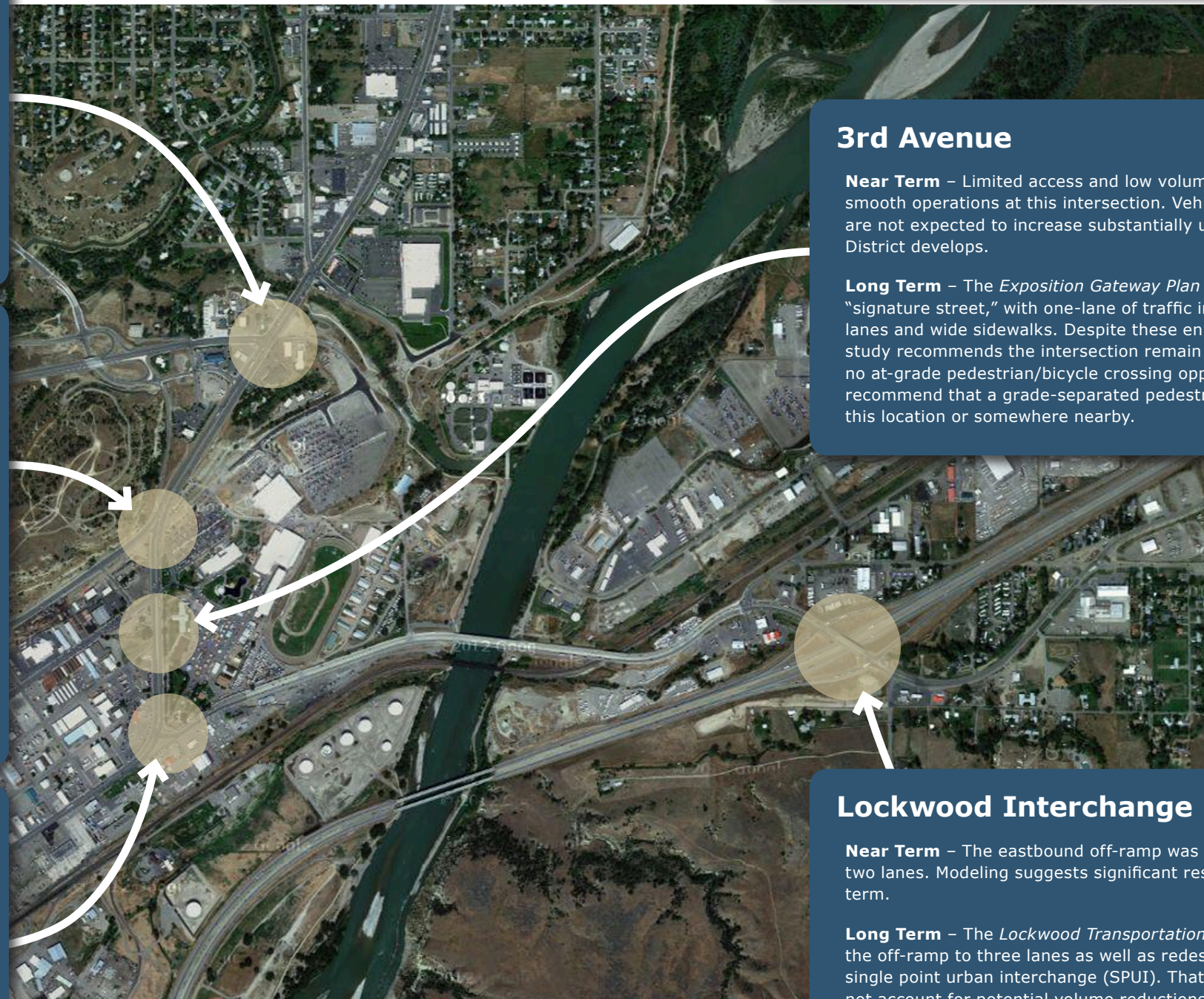


Figure 1.05 – This graphic summarizes projected trends based on practical assumptions and adopted policy conditions. “Near Term” changes may be expected to occur between 1-10 years; “Long Term” changes are likely beyond 10 years. (Image source: Fehr & Peers)

Design Recommendations

Introduction

This section presents design recommendations for the Hospitality Corridor Planning Study, illustrating alternatives considered, proposed improvements for the near-term, proposed improvements for the long-term, and recommended streetscape elements.

As with the rest of this summary document, findings are presented as maps and drawings with brief written descriptions as introduction; more detailed analysis and technical information may be found within the appendix document.

Alternative Concepts

(Considered, not recommended)

Figures 2.03 and 2.04 present options that were **initially** considered as Hospitality Corridor concepts. Both focus on enhancing the environment for multi-modal travel and served as a springboard for the proposed concepts described in the following section. The concepts differ primarily in the treatment at 1st Avenue/Exposition Drive.

Alternative A (Figure 2.03) envisioned a more extensive remake of the corridor, including a grand roundabout at the



Figure 2.01 – To achieve long-range community goals, this study recommends solutions supporting a full range of transportation modes, allowing the Hospitality Corridor to develop as a more engaging, active part of the city. (Image source: High Plains Architects)

intersection of 1st/US 87/Exposition Drive. Pedestrian crossings of the corridor were to be provided at three points:

- A HAWK ¹ signal at 3rd Avenue that would be upgraded to a grade-separated crossing at a later date.
- A HAWK signal south of METRA Park to provide access across US 87 east of Exposition Drive.
- A full access signal at the intersection of 10th Street and 1st Avenue.

¹ A HAWK beacon (High-Intensity Activated crossWalk beacon) is a traffic signal used to stop road traffic and allow pedestrians to cross safely. It is officially known as a "pedestrian hybrid beacon." The purpose of a HAWK beacon is to allow protected pedestrian crossings, stopping road traffic only as needed. Research has shown motorists' compliance with the HAWK beacon at up to 97%, higher than with traditional un-signalized crossings.



Figure 2.02 – Long-term recommendations for the corridor include a “signature” roundabout at 1st Avenue/US 87. Such a feature would address multiple goals for the corridor, but would require coordination and funding from MDT and other agencies. (Image source: Fehr & Peers, Sanderson-Stewart)

Alternative B (Figure 2.04) provided a lower-cost alternative hinged around upgrading the existing signal at the intersection of 1st/US 87/Exposition Drive to include a marked pedestrian crossing with signal phasing and minor beautification treatments. Additional pedestrian crossing opportunities would be provided at the following locations:

- *A HAWK signal at 3rd Avenue that would be upgraded to a grade-separated crossing at a later date.*
- *A HAWK signal at the intersection of 10th Street and 1st Avenue.*

It is important to note that while the HAWK signal is an innovative treatment to provide safer at-grade pedestrian crossings, it was ultimately taken out of the proposed set of

improvements due to concerns about its potential impacts to traffic operations on State-owned routes.

Proposed Improvements

To facilitate implementation, the planning study team sorted recommendations into two main categories: near-term (0-5 years) and long-term (5 years or more).

Near-term projects (Figure 2.05) list efforts seen as relatively easy to implement that would enhance the streetscape and help improve pedestrian safety. These improvements include intersection enhancements that fit within the existing rights of way, as well as beginning work on an improved pedestrian realm, including relocating the fence at MetraPark to provide a wider multi-use path.

Long-term projects (Figure 2.06) list efforts that are more transformative, implementing some of the recommendations from the Gateway master plan and requiring a higher level of investment over a longer period of time. Projects like the grade-separated pedestrian crossing of Exposition Drive and the “signature” roundabout at 1st Avenue/Exposition Drive/US 87 are included, requiring multi-agency coordination and funding from MDT and other partners.

Streetscape Elements

The images provided in Figure 2.07 show streetscape elements that should be considered in the ultimate Hospitality Corridor design. Note that these drawings are intended to convey feature types versus specific, localized designs. Proposed elements include:

Corridor Wide

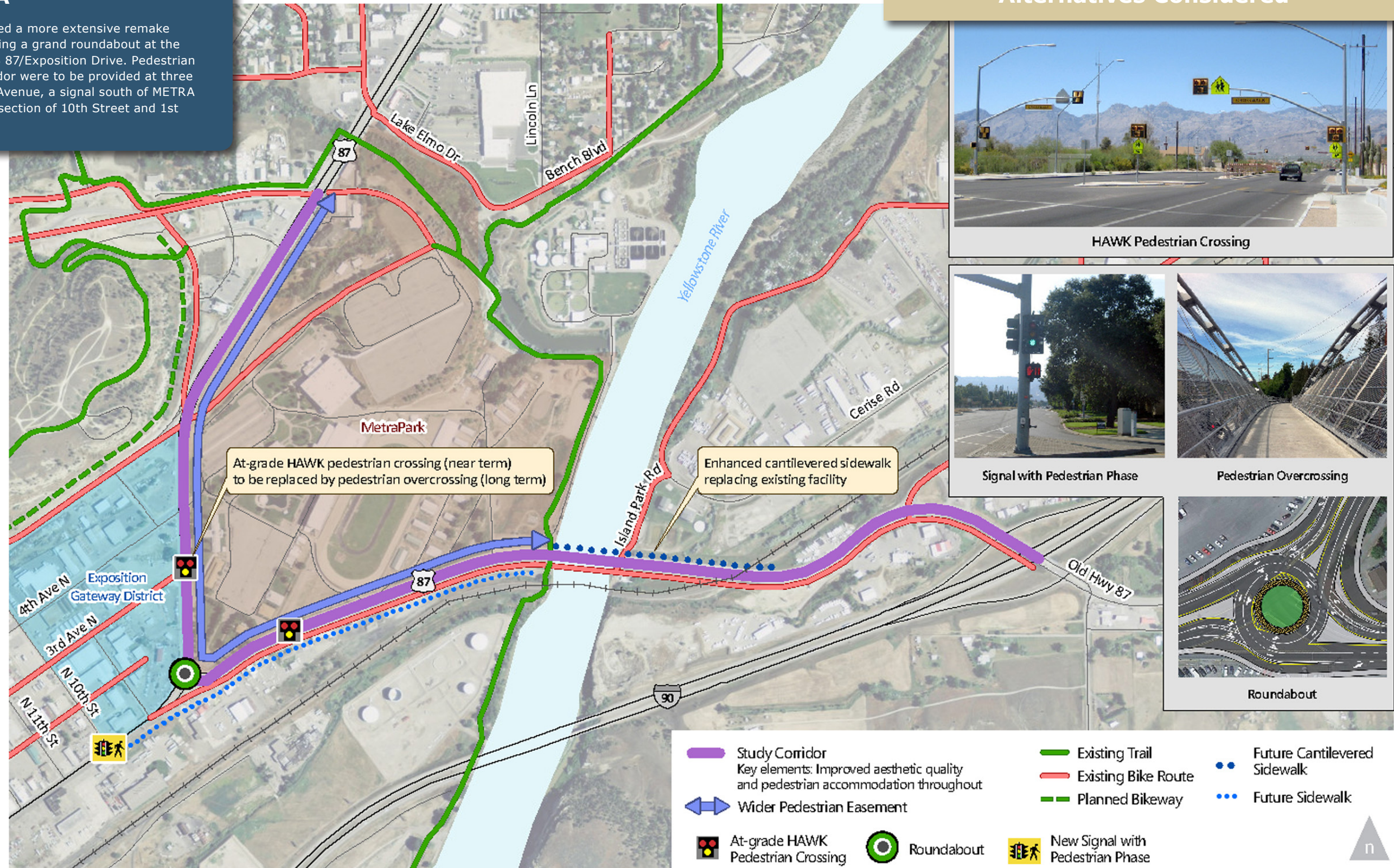
- *Street trees*
- *Buffered sidewalks and trails*
- *Decorative furnishings (benches, rubbish bins, and bicycle parking)*
- *Signage and wayfinding tailored to multiple scales*

Signature Treatments at Key Locations

- *Signalized pedestrian-automated crossings*
- *Grand roundabout that accommodates trucks and heavy traffic volumes on the corridor*
- *Grade-separated pedestrian crossing*

Alternative A

This scheme envisioned a more extensive remake of the corridor, including a grand roundabout at the intersection of 1st/US 87/Exposition Drive. Pedestrian crossings of the corridor were to be provided at three points, including 3rd Avenue, a signal south of METRA Park, and at the intersection of 10th Street and 1st Avenue.



Alternatives Considered

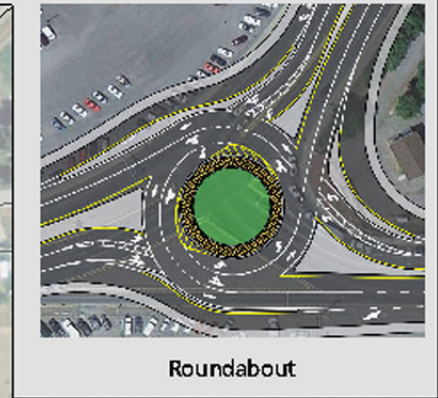


Figure 2.03 – This illustration shows the range of improvements evaluated under "Alternative A", proposing a fairly extensive re-make of the corridor environment. (Image source: Fehr & Peers, Sanderson-Stewart)

Alternative B

This scheme envisioned a lower-cost alternative for the corridor, hinged around upgrading the existing signal at the intersection of 1st/US 87/Exposition Drive and including a marked pedestrian crossing with signal phasing and minor beautification treatments. Pedestrian crossing opportunities were evaluated at 3rd Avenue and at 10th and 1st.

Alternatives Considered

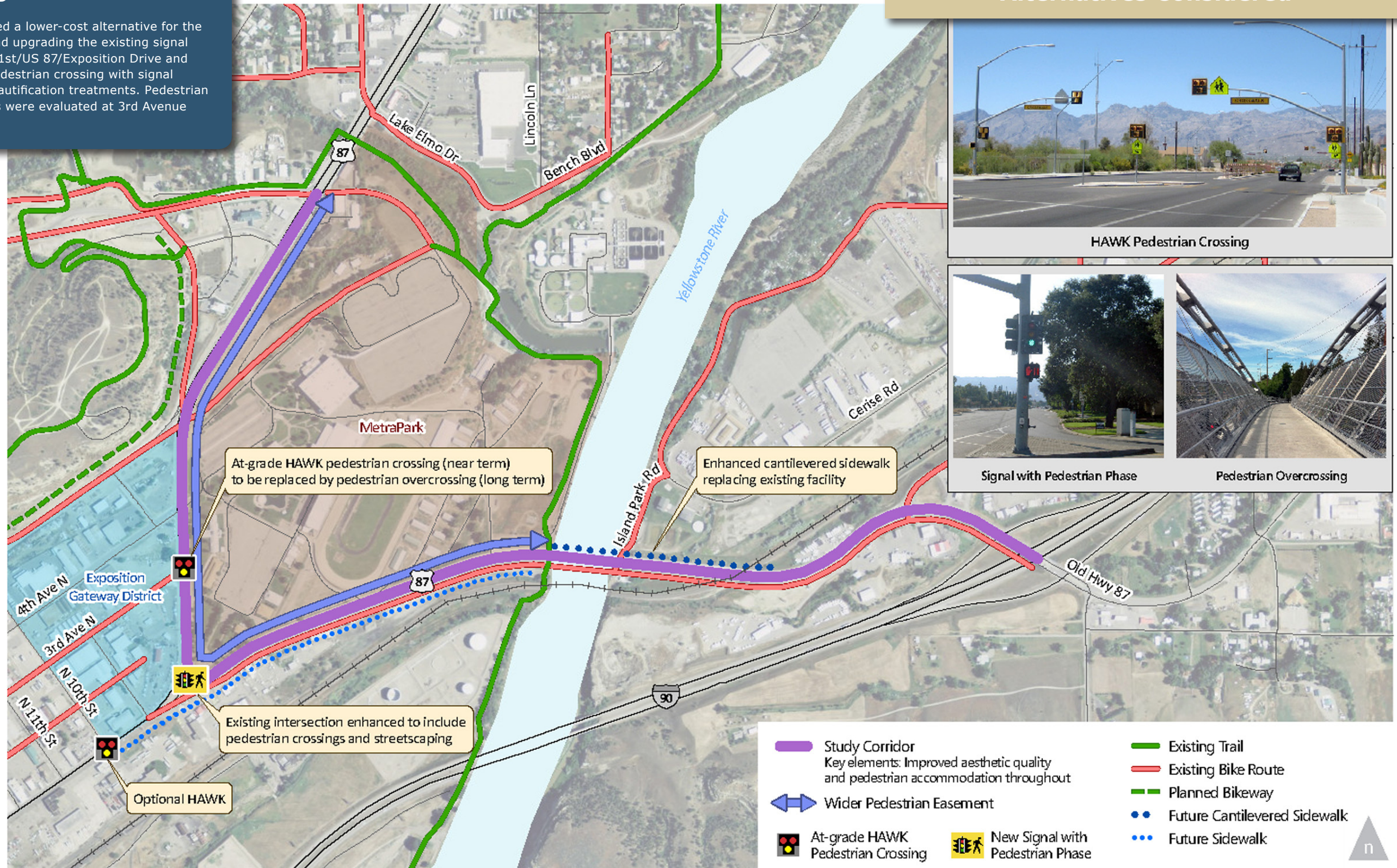


Figure 2.04 – This illustration shows the range of improvements evaluated under "Alternative B", proposing a lower-cost, simplified set of upgrades for the corridor environment. (Image source: Fehr & Peers)

Near-term projects *

This map spotlights "Near Term" (five or fewer year) efforts – projects that could be realized relatively quickly to enhance the streetscape and improve pedestrian safety. These would include intersection enhancements that fit within the existing rights of way, as well as initiating work on an improved pedestrian realm, including relocating the fence at MetraPark to provide a wider multi-use path.

Proposed Improvements: Near-Term

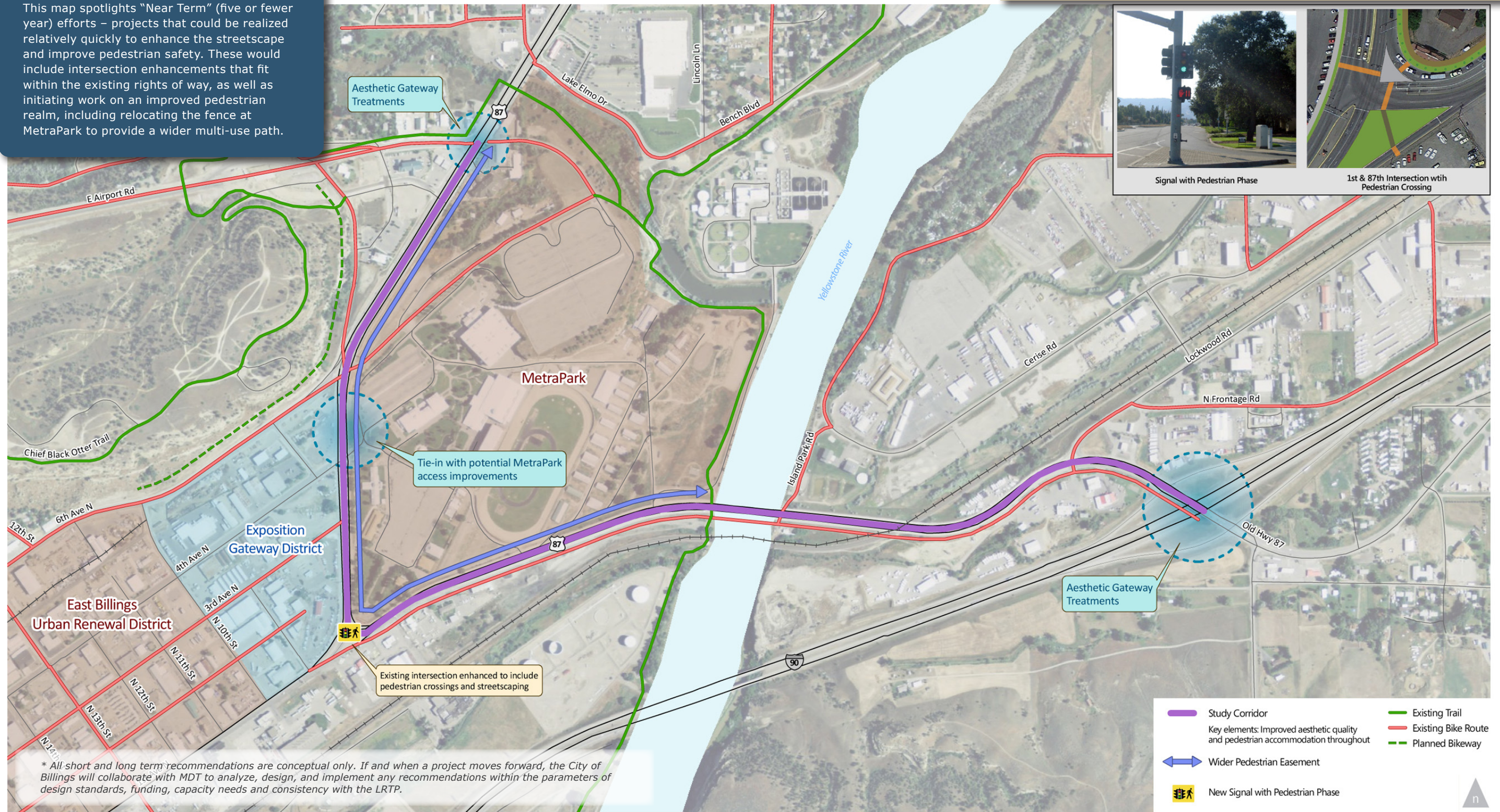


Figure 2.05 – This illustration shows the range of near-term improvements proposed to address Hospitality Corridor goals. (Image source: Fehr & Peers)

Long-term projects *

This map spotlights "Long Term" (five or more year) efforts – projects are more transformative, implementing some of the recommendations from the Gateway master plan and requiring a higher level of investment over a longer period of time. Projects like the grade-separated pedestrian crossing and the "signature" roundabout are shown, requiring multi-agency coordination and funding from MDT and other partners.

Proposed Improvements: Long-Term

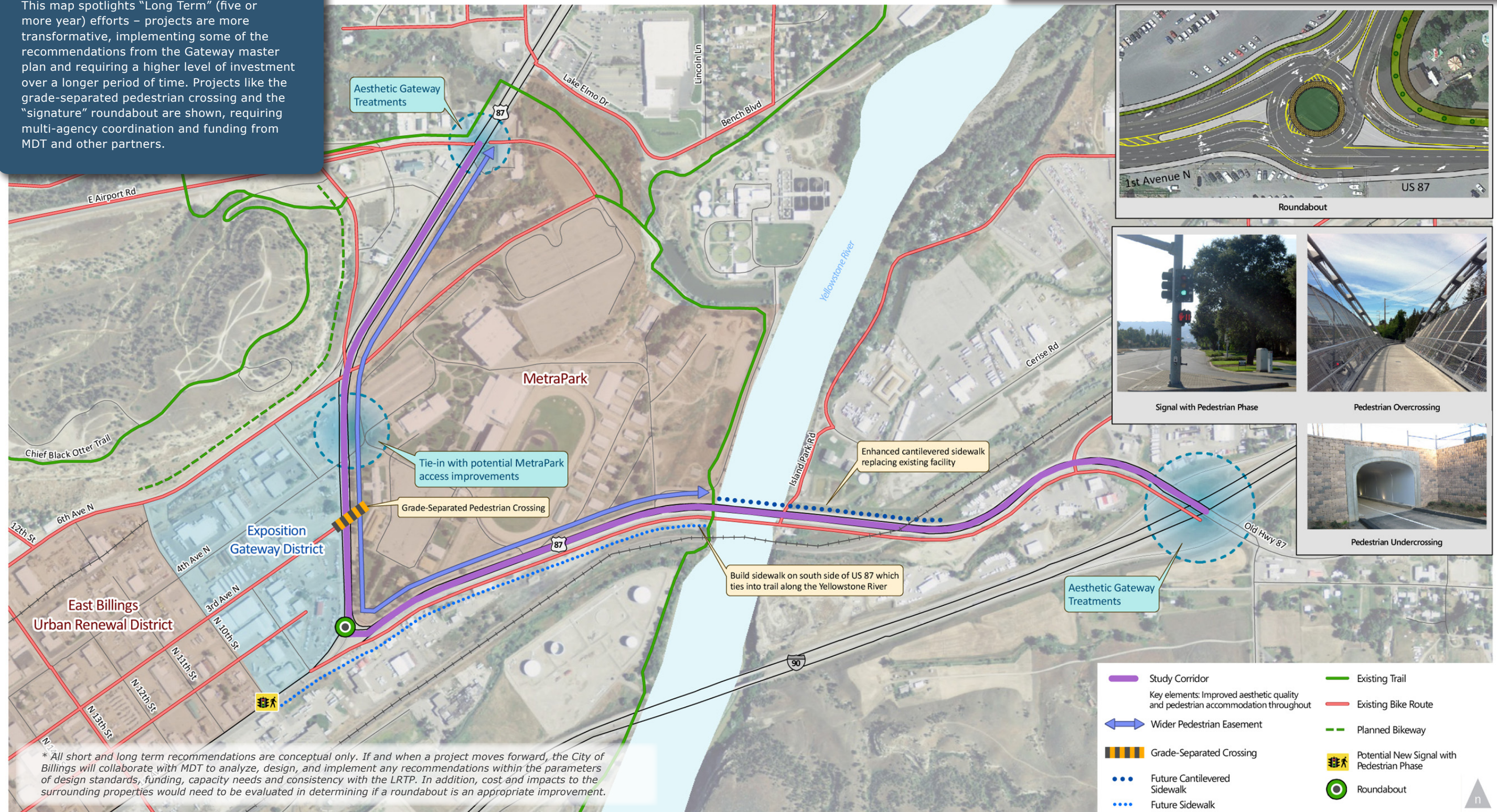
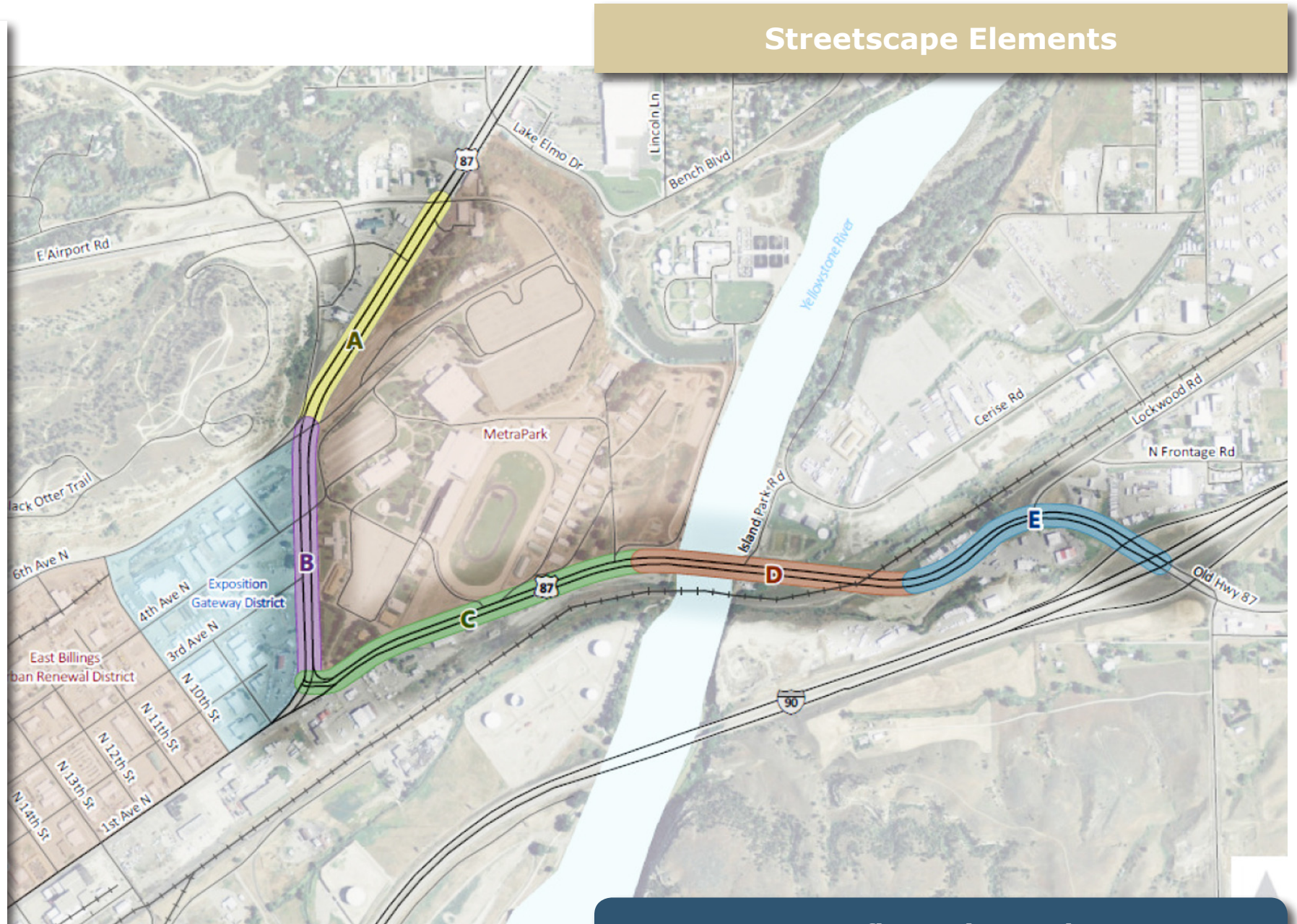
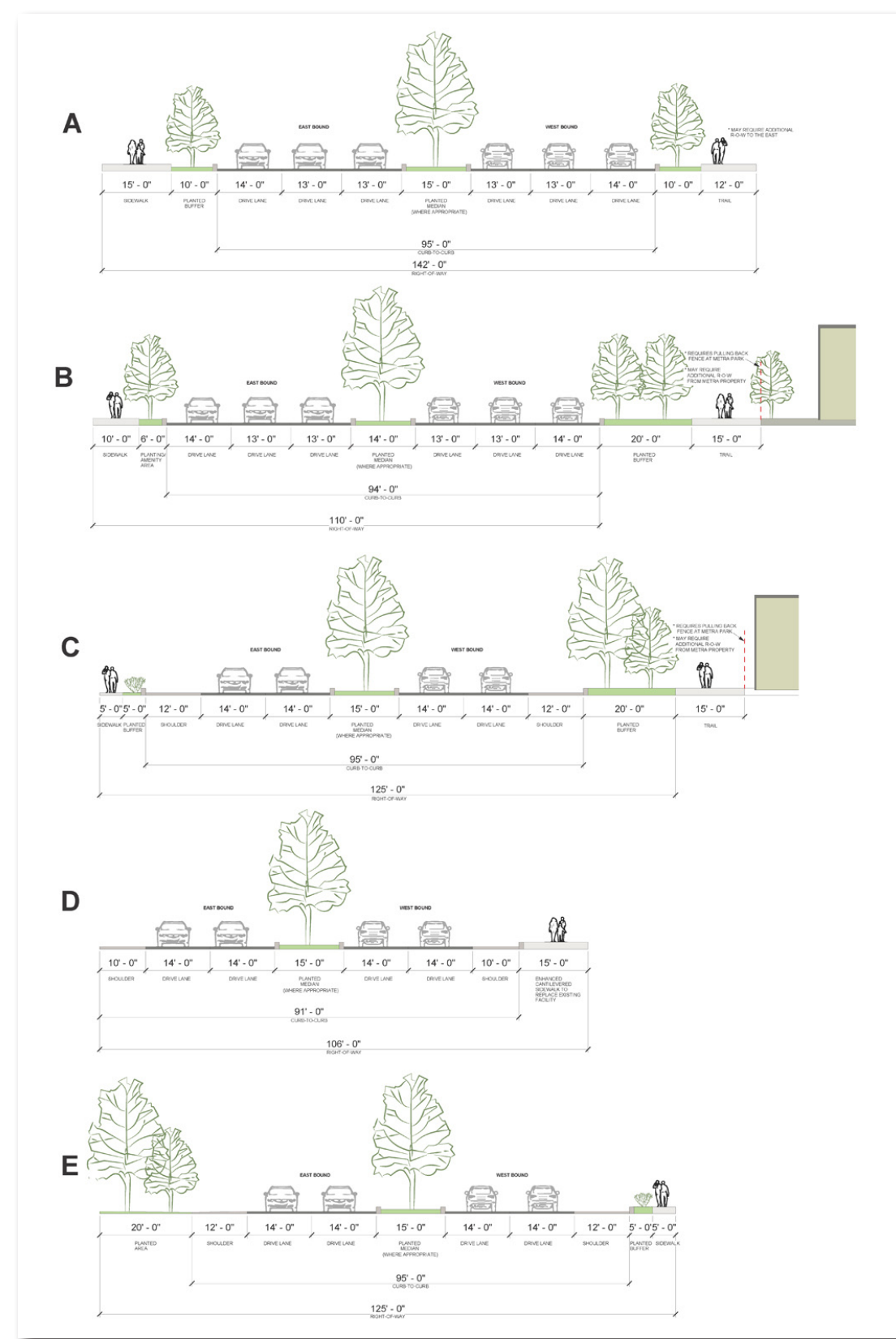


Figure 2.06 – This illustration shows the range of long-term improvements proposed to address Hospitality Corridor goals. (Image source: Fehr & Peers, Sanderson-Stewart)



Streetscape Elements

Streetscape configurations, elements

Tying together the near and long-term corridor concepts, the Hospitality Corridor project team developed street designs appropriate to key segments along the Hospitality Corridor. Segments (map above) were identified based on characteristics such as surrounding land uses and physical constraints. At left, streetscape sections are presented, recommending configurations for each of the map segments.

Figure 2.07 – This graphic presents concept-level configurations for roadway and streetscape elements along the Hospitality Corridor. Street section types (A-E) are keyed to the corridor map above. (Image source: Fehr & Peers)

Character, Local Context

These images show how other communities have implemented the types of streetscape elements recommended for the Billings Hospitality Corridor. From pedestrian bridges, to roundabouts, to wayfinding features, the potential exists to create elements that not only add beauty and function to the corridor, but are uniquely suited to Billings and its overall objectives.

Streetscape Design Options

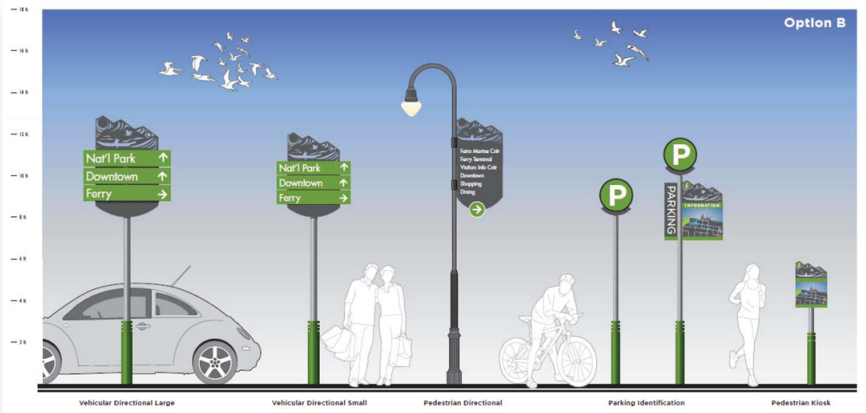
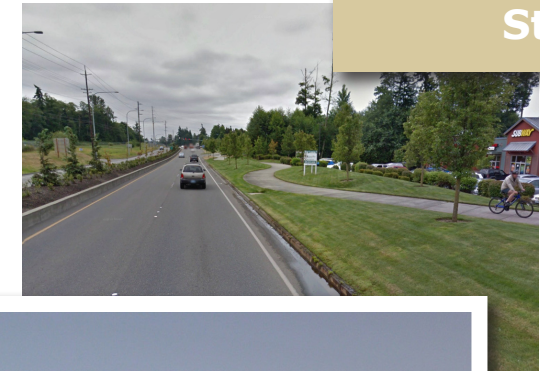


Figure 2.08 – These images show how streetscape elements can be designed to fill a wide range of functional and aesthetic needs. (Images source: Fehr & Peers)

Funding & Implementation

Funding Sources

Critical to any plan is its implementation. As part of its work, the project team compiled a list of potential and likely funding sources for components of this plan, including them on the following page in Table 3.01.

There is no funding currently identified or allocated for improvements recommended in this study.

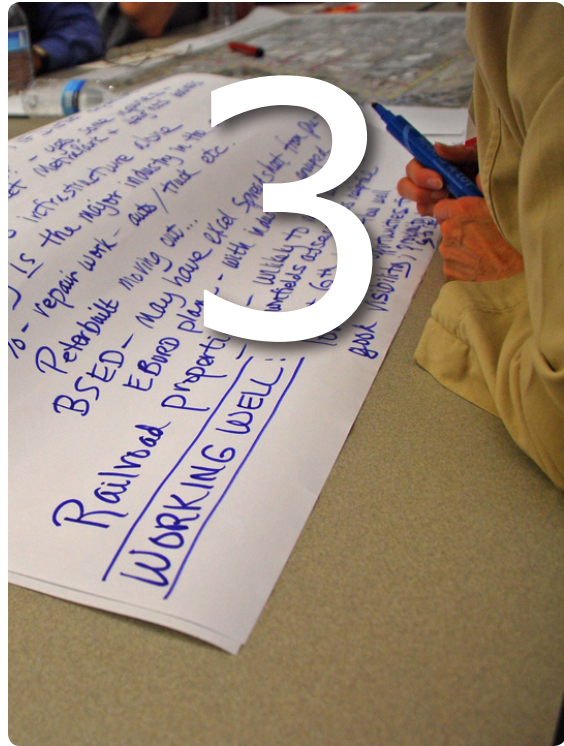


Figure 3.01 – This study provides outline information regarding partners and likely funding sources to help realize Hospitality Corridor goals. (Image source: Studio Cascade, Inc.)

Table 3.01 - Funding sources, eligible uses

Agency	Source	Eligible Uses
City of Billings	Capital Improvement Fund	<i>Flexible source of funding, programmed every two years</i>
	General Bond	<i>Flexibility depends on allowable uses for bond funds</i>
	Special improvement district	<i>The City is currently researching the viability of a Special Improvement District within the Exposition Gateway Master Plan area, which could fund streetscape and stormwater infrastructure</i>
	Arterial fee	<i>Must be used for projects on arterial roadways</i>
Other local sources	Urban Transportation Districts	<i>An Urban Transportation District (UTD) is structured similar to a Special Improvement District, with bonds backed by local government and issued to cover the cost of a proposed transportation improvement. UTDs are a flexible fund source that can cover the cost of roadway capacity, streetscape, and transit improvements. Revenue to pay for the bonds is raised through assessments against property owners in the designated district. UTDs provide a mechanism for funding projects that span multiple jurisdictions. Montana Code provides counties with the authority to establish UTDs with approval of affected residents</i>
Federal	TIGER	<i>Highly-competitive Federal funds that can be used for a wide variety of corridor improvements</i>
	Transportation Alternatives program (TA)	<i>Funds projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation; recreational trail projects; safe routes to school projects; and projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former divided highways</i>
	Congestion Management/Air Quality (CMAQ)	<i>Operating assistance is limited to new transit, commuter and inter-city passenger rail services, inter-modal facilities, travel demand management strategies, including traffic operation centers, inspection and maintenance programs, and the incremental cost of expanding these services</i>
	Regional Transportation Planning (RTP)	<i>Flexible planning dollars that can be used for a variety of planning and design purposes</i>
	Highway Safety Improvement Program	<i>A highway safety improvement project is any strategy, activity or project on a public road that is consistent with the data-driven State Strategic Highway Safety Plan (SHSP) and corrects or improves a hazardous road location or feature or addresses a highway safety problem. MAP-21 provides an example list of eligible activities, but HSIP projects are not limited to those on the list</i>
Other	Developer funds	<i>The City does not currently charge impact fees to fund new transportation system improvements. However, the City assesses an arterial construction fee, which levies a fee on all properties within the city limits and the resulting revenue (approximately \$3 million annually) is used specifically for constructing or reconstructing arterial roads within Billings</i>
	Big Sky Economic Development Authority grants	<i>Projects must include an obvious link to economic development; in particular, the Exposition Gateway Plan</i>

Additional project support from:

LMN Architecture
Urban Design
Interiors

 **HIGH PLAINS**
ARCHITECTS

 **Studio
Cascade**
Community Planning & Design

SANDERSON 
STEWART