

Approved Citywide Transportation Framework

PREPARED FOR: Steering Committee
PREPARED BY: TSP Project Team
DATE: February 7, 2019

Introduction

This memorandum presents the Citywide Transportation Framework as recommended by the Citywide Transportation Advisory Committee (CTAC) and approved by the Transportation Steering Committee on January 30, 2019. This memo includes the revisions requested by the Steering Committee.

The Citywide Transportation Framework is a key outcome of the first year of work to update Bend's Transportation Plan. It implements the project goals and performance measures approved by the Steering Committee in September 2018 (Results of Sept 11 2018 SC Meeting). The Citywide Transportation Framework provides a balanced basis for a transportation system that will serve Bend residents, workers, visitors, a robust economy, and a livable community to 2040.

The project team conducted a detailed technical evaluation of three citywide transportation scenarios, considering both the tradeoffs of the approaches that scenarios represented, as well as the benefits of individual projects (Scenario Evaluation Detailed Technical Analysis – Attachment E). CTAC used the technical findings to work through a list of transportation project and program choices – resulting in the Citywide Transportation Framework described in this memo and approved by the Steering Committee.¹

The Citywide Transportation Framework includes a broad range of projects and programs to accommodate Bend's growth to 2040. The Citywide Transportation Framework projects and programs principally affect the City's arterial and collector system and transportation patterns in the City as a whole². The Citywide Transportation Framework will serve as the basis for Phases 2 and 3 of Bend's Transportation Plan.

The Citywide Transportation Framework will be combined with the outcomes of the January 2019 Neighborhood Workshops, resulting in a complete system of projects and programs for the City's Transportation Plan update. In late spring/early summer 2019, the project team, CTAC

¹ CTAC was briefed on the technical evaluation at its November 13, 2018 meeting, then met in workshop format on December 4th and 11th to create its recommendations.

² In addition to advancing the City's Transportation Plan, the Citywide Transportation Framework is the basis for an update of the Bend Metropolitan Planning Organization's Transportation Plan update, which focusses on arterials and collectors and has a regulatory deadline for an update by fall 2019. Because the boundaries of the MPO are largely the same as the City of Bend's, the Bend Transportation Plan and the MPO MTO are being created concurrently for efficiency and to comply with the Transportation Planning Rule.

and the Steering Committee will begin the process of prioritizing citywide and neighborhood projects and programs, and matching those projects with funding. During that same time period, CTAC will be developing policy language.

Developing the Recommended Citywide Framework

The findings from evaluating three scenarios against 18 performance measures³ informed the development of the recommended Citywide Transportation Framework. A detailed summary of the scenario evaluation can be found in the *Scenario Evaluation Overview for CTAC* (<u>Scenario Evaluation</u>).

Key Findings from Scenario Evaluation & CTAC Discussion

✓ Addressing Key Vehicular Capacity Needs Will Improve Travel Time Reliability & Help Alleviate Congestion

The analysis found that a mix of approaches is needed to manage Bend's existing and future congestion – including improving connectivity (new roads), widening existing roadways, fixing intersection bottlenecks, and/or adopting policy that allows for more vehicular congestion in specific areas or corridors. Three need areas that were particularly complex to identify preferred solutions for and led to focused CTAC discussions of trade-offs were: (1) east-west capacity and connectivity through Central Bend, (2) north-south capacity, and (3) south/central US 97 corridor capacity and safety.

For need areas #1 and #2, the recommended Citywide Transportation Framework includes a combination of new roads and an incremental approach to intersection improvements and roadway widening that will allow the City to prepare for growth and monitor transportation technology changes while preserving the ability to construct new or widen existing roadways when they are needed. In addition, the Citywide Transportation Framework several studies: a new bridge over the Deschutes River, and the potential for moving the Burlington Northern Railroad switching yard outside of the City and/or constructing a overcrossing at Reed Market Road. For need #3, operations and safety management improvements will be identified via the ODOT US 97 Parkway Study.

✓ Complete Bike and Pedestrian Networks Create Connectivity and Access

Complete bicycle and pedestrian systems in Bend will improve connectivity and access for people on foot, using mobility devices, and on bikes. Without the complete network, individual projects will not result in significant gains in access to jobs for those walking, using mobility devices or biking. Completing these networks is particularly important for improving the viability of transit in Bend. The Citywide Transportation Framework includes a goal of a complete bicycle "low-stress network" and a complete pedestrian system to address this need.

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³ Safety is of particular concern to CTAC and the public. Safety projects are included in the Baseline, as a Performance Measure, were a key discussion point in developing the Citywide Transportation Framework, and will be studied as part of the Transportation Safety Action Plan (TSAP), which is being conducted concurrently with the Transportation Plan. The TSAP is expected to provide projects and policies in the spring of 2019.

✓ Transit and Demand Management Work Together

The analysis showed that demand for motor vehicle trips, particularly during peak hours, can be reduced by a combination of transit investments and implementing policies and programs that encourage use of other modes (e.g., parking pricing and employer commute options). Concepts such as "mobility hubs" have the potential to improve mobility and reduce demand for motor vehicle trips by providing first/last mile travel choices that connect to an improved transit system. Implementing transportation demand management in key regional centers and parking pricing in downtown would support increased transit, walking and biking in Bend, and complement the land use plan adopted in the 2016 update of Bend's Comprehensive Plan.

Approved Citywide Transportation Framework

The Citywide Transportation Framework is a balanced approach to addressing Bend's citywide transportation needs. Projects include enhancing capacity, improving safety, completing walking and biking connections, and enhancing operations with technology, improving transit service, and implementing travel demand management. The Citywide Transportation Framework is a mix of the best performing projects combined with the Baseline projects that are already in the transportation plan.⁵

Baseline Projects

The Citywide Transportation Framework includes Baseline Projects, comprised of the City of Bend's 5-year Capital Improvement Program, the Bend MPO Transportation Plan's financially-constrained project list, and the Bend Urban Area 2016 Transportation System Plan amendments to support the UGB expansion.⁶ These projects are anticipated to be funded to the extent possible with current funding streams. The Baseline Projects are shown in Figure 1 and listed in Table 1.

Additional Vehicular & Multimodal Projects

The Citywide Transportation Framework includes 35 new projects and programs in addition to the Baseline Projects. Funding for these projects and programs, which go beyond the funding assumptions for the Baseline Projects, will be evaluated as part of the future phases of the work program (see the *Initial Funding Assessment* for additional detail). These additional projects are shown in Figures 2 and 3 and listed in Table 2. For operational and safety improvements to US 97 (project N-4), additional detail will be developed as part of the in-process <u>US 97 Bend Parkway Plan.</u>

To explore the concept of extending Wilson Avenue to 27th Street, the Steering Committee requested further evaluation in Phase 2 of the work program to determine the feasibility, impacts, and benefits of a collector corridor vs. local street connections. The evaluation will

⁴ A mobility hub is a physical place where different modes of travel and services converge, providing an integrated range of mobility services such as public transit, bike share, scooters, shuttles, and ride-share. This convergence of services helps to seamlessly link trips by different modes, including providing first/last mile services for regional transit connections.

⁵ Some projects, listed in Appendix A, are outside of the Citywide Framework because they did not address the performance measures, or could better be addressed through policy or at the neighborhood level.

⁶ Bend Urban Area Transportation System Plan as updated to incorporate 2016 UGB expansion.

include assessment of the 9th/Wilson intersection (a roundabout at Wilson/15th is included in the Citywide Framework).

Complete Bicycle Low-Stress Network

Citywide Transportation Framework includes implementation of a complete Bicycle Low-Stress Network. The Bicycle Low-Stress Network, presented on Figure 5, will be implemented through a mix of projects, including the retrofit of existing streets with protected bike facilities, enhancements to support Neighborhood Greenways (shared use facilities), and crossing improvements to connect the network. Policies will be developed to ensure that new facilities will be constructed to include low-stress bicycle infrastructure.

Connected Pedestrian System

The Citywide Transportation Framework includes: (a) identifying projects to close sidewalk and crossing gaps on arterials and collectors, (b) implementing a local sidewalk infill and crossing improvement program, and (c) improving facilities to meet current Americans with Disabilities Act (ADA) standards. The project team is inventorying gaps in the collector and arterial sidewalk system and identifying locations where crossing enhancements are needed. The project team will refine the local sidewalk infill and crossing improvement program using input from Neighborhood Workshops and discussions with CTAC around pedestrian policy. Future work efforts may also assess the condition of existing sidewalks to determine necessary improvements. Because this work is not complete, the projects required to complete the pedestrian network on the arterial and collector network are not presented in this memorandum.

State of Good Repair

The Citywide Transportation Framework includes implementing a program to make capital improvements necessary to maintain the City's transportation system in a state of good repair. Many roadways in the City have deferred maintenance needs that will require significant reconstruction to remedy.

Studies and Policies

The Citywide Transportation Framework includes two studies (to be completed following adoption of the TSP):

- Study an additional river crossing south of Reed Market Road. CTAC agreed that a new river crossing to create an additional east-west corridor is likely to be needed before 2040, and that the City should undertake a more detailed study of the location, impacts, and tradeoffs to determine the appropriate location.
- Study the feasibility of either relocating the BNRR switching yards outside of the City or grade-separating the railroad crossing of Reed Market Road to address the Travel Time Reliability impacts of train car switching.

The Citywide Transportation Framework includes several projects and programs that are not geographically specific and therefore not mapped:

- Require Travel Demand Management programs for major employers and institutions.
- Implement the projects and programs identified in the Deschutes County Intelligent Transportation Systems (ITS) Plan. This includes installing and implement technology to

improve traffic signal coordination on signalized corridors, including freight and transit signal priority on designated corridors.

• Implement parking pricing in Downtown Bend as planned in the Downtown Parking Plan.

The Citywide Transportation Framework supports adopting policies that will allow for different mobility standards in specific areas of the City, as well as when projects would be triggered by demand. Policy language for these items will be developed during the winter and early spring of 2019.

Figure 1. Baseline Transportation Projects

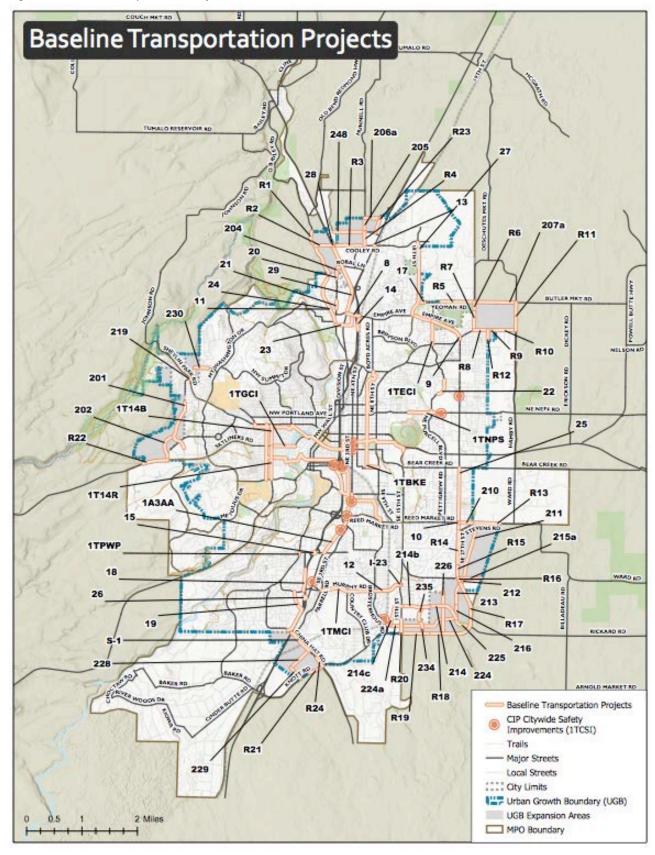


Table 1. Baseline Transportation Projects

Number	Project Description
8	Widen Empire Ave to 5 lanes and install signal at SB ramps
9	Construct extension of Empire Ave
10	Realign Stevens Road to connect directly to Reed Market Rd
11	Construct intersection control improvements on O.B. Riley Rd
12	Murphy Road extension
13	US 97/Cooley Road area improvements
14	Widen existing Empire Ave/US 97 ramp to 2 lanes
15	Preliminary engineering and ROW acquisition for overcrossing or interchange of US 97/Powers Road
17	Construct Yeoman Road 2 lane extension
18	North Frontage Road
19	South Frontage Road
20	Britta Street extension (north section)
21	Britta Street 2 lane extension
22	Purcell 2 lane extension
23	Mervin Samples Rd/Sherman Rd upgrade to 2 lane collector roadway and install traffic signal at US 20
24	Upgrade O.B. Riley Rd to 3 lane arterial
25	Upgrade 27th Street to 3 lane arterial
26	Construct northbound on and southbound off ramps at US 97/Murphy Road
27	Complete 19th Street 3 lane arterial
28	Construct intersection control improvements on US 20
29	Add second southbound through lane on US 20
1TMCI	Murphy Corridor Improvements
1TECI	Empire Corridor Improvements
1TBKE	Bicycle Greenways
1A3aa	South 3rd Street Pedestrian Improvements
1TNPS	Neff and Purcell Intersection (Formerly Neff & Purcell Sidewalk)
1TPWP	Powers and Brookswood Roundabout Phase II
1TGCI	Galveston Corridor Improvements
1T14B	14th Street Reconstruction Schedule B
1T14R	14th Street Reconstruction
1TCSI	Citywide Safety Improvements
R1	O.B. Riley Rd (curb, sidewalk and bike lane improvements)
R2	Cooley Rd (curb, sidewalk and bike lane improvements)
R3	Cooley Rd (curb, sidewalk and bike lane improvements)
R4	Hunnell Road (sidewalk improvements)
R5	Yeoman Rd (curb, sidewalk and bike lane improvements)
R6	Deschutes Market Rd (curb, sidewalk and bike lane improvements)
R7	Deschutes Market Rd (curb, sidewalk and bike lane improvements)
R8	Butler Market Rd (curb, sidewalk and bike lane improvements)
R9	Butler Market Rd (curb, sidewalk and bike lane improvements)
R10	Butler Market Rd (curb, sidewalk and bike lane improvements)
R11	Butler Market Rd (curb, sidewalk and bike lane improvements)
R12	Eagle Rd (curb, sidewalk and bike lane improvements)
R13	Stevens Rd (curb, sidewalk and bike lane improvements)
R14	SE 27th St (curb, sidewalk and bike lane improvements)
R15	SE 27th St (curb, sidewalk and bike lane improvements)
R16	SE 27th St (curb, sidewalk and bike lane improvements)
R17	SE 27th St (curb, sidewalk and bike lane improvements)
R18	SE 27th St (curb, sidewalk and bike lane improvements)
R19	Knott Rd (curb, sidewalk and bike lane improvements)
R20	15th St (curb, sidewalk and bike lane improvements)
K/U	

R22	Skyliners Rd (curb, sidewalk and bike lane improvements)	
R23	Clausen Dr (curb, sidewalk and bike lane improvements)	
R24	China Hat Rd (curb, sidewalk and bike lane improvements)	
R25	China Hat Rd (curb, sidewalk and bike lane improvements)	
R26	Deschutes Market Rd (curb, sidewalk and bike lane improvements)	
201	Skyline Ranch Road Extension	
202	Crossing Drive Extension	
204	New Road	
205	Hunnell Road Extension	
206a	New Road	
207a	Yeoman Road Extension	
210	New Road to Stevens	
211	New Road	
212	New Road	
213	New Road	
214	New Road	
214b	New Road	
214c	New Road	
215a	New Road	
216	New Road	
219	Skyline Ranch Road	
224	New Road	
224a	New Road	
225	New Road	
226	New Road	
228	New Road	
229	New Road	
230	New Road	
234	Raintree Court Extension	
235	Raintree Court Extension north	
248	Loco Road Extension	
S-1	Corridor improvement, China Hat widen from 2 to 3 lanes	
I-23	Roundabout at Murphy Road/SE 15th Street	

Figure 2. Additional Citywide Transportation Framework Projects

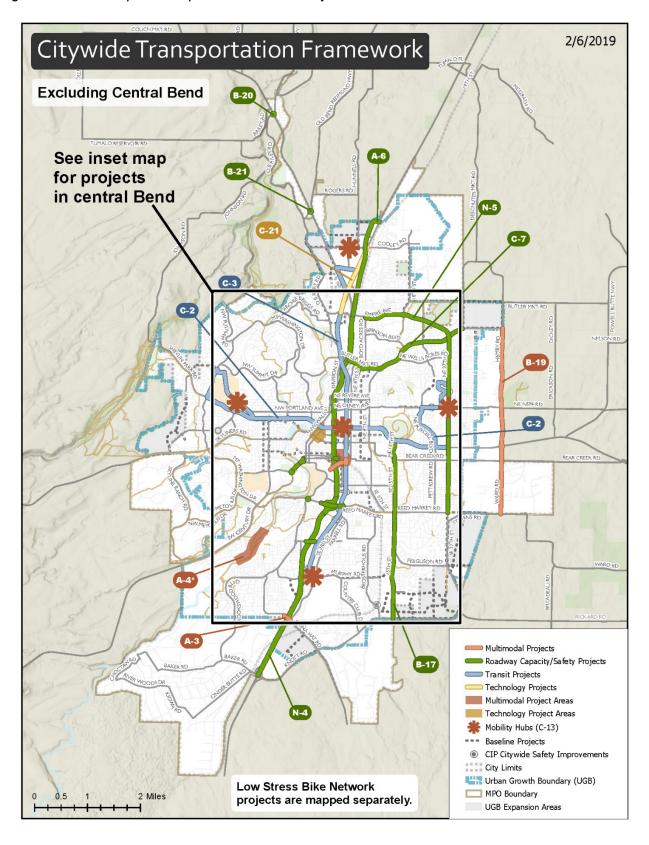


Figure 3. Additional Citywide Transportation Framework Projects (Central Bend Area)

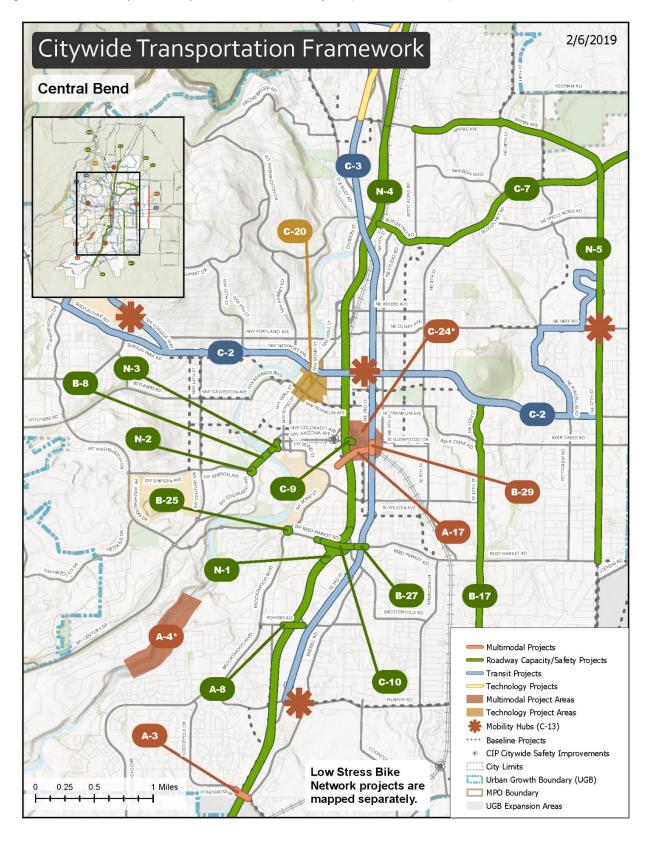


Table 2. Additional Citywide Transportation Framework Projects

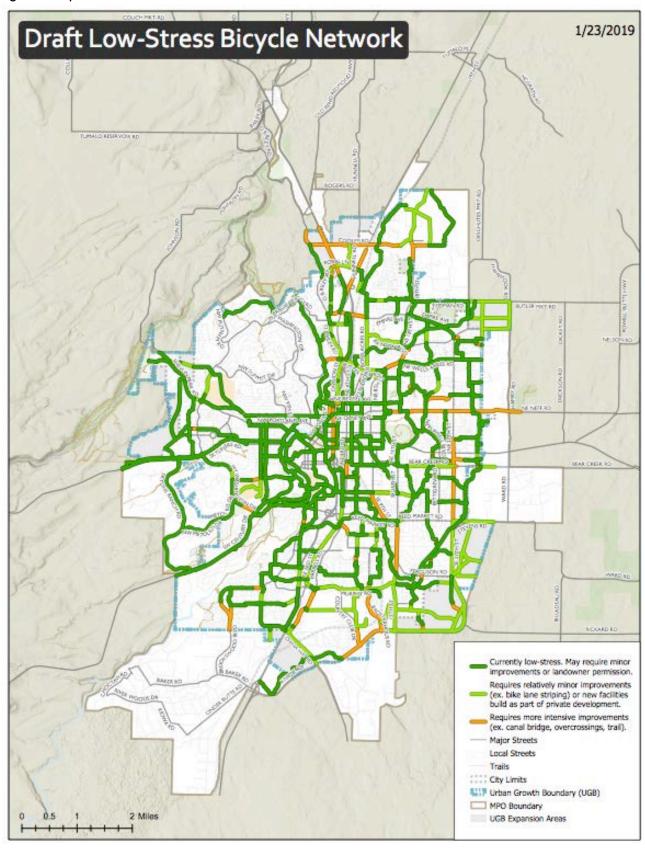
	ar Citywide Transportation Framework Projects	
Number	Project Description	Project Type
A-3	Ponderosa Street/China Hat Road Overcrossing of US 97	Multimodal
A-4*	Southern River Crossing Study (between Powers and Murphy)	Multimodal
A-6	US 97 North Parkway Extension (from Grandview Drive to US 97), including all improvements in the FEIS	Roadway Capacity/Safety
A-8	Powers Road/US 97 interchange1	Roadway Capacity/Safety
A-17	Aune Road Extension (Bond to 3rd Street)	Multimodal
B-8	Colorado Avenue corridor capacity improvements (Include incremental approach for Colorado including right-of-way acquisition and monitoring for if/when widening is appropriate. Implement alternate mobility targets and identify smaller projects to improve mobility, reliability and safety)	Roadway Capacity/Safety
B-17	Corridor Improvements to 15th Street between US 20 and Knott Road, including protected bike/ped facilities and roundabouts at key intersections	Roadway Capacity/Safety
B-19	Hamby Road widening (from Stevens Road to Butler Market Road), including a roundabout at US 20	Multimodal
B-20	Intersection safety and capacity improvements at US 20/Cook/Tumalo	Roadway Capacity/Safety
B-21	Intersection safety and capacity improvements at US 20/Old Bend-Redmond Highway	Roadway Capacity/Safety
B-25	Widen Bond/Reed Mkt roundabout (partial two lane)	Roadway Capacity/Safety
B-27	Provide dedicated left turn lanes on Reed Market at 3rd Street – possibly through widening or a road diet	Roadway Capacity/Safety
B-29	Widen 3rd St to 4 lanes under the railroad, including complete street design	Multimodal
C-2	High-capacity transit on the Newport-Greenwood corridor, with mobility hubs at COCC, downtown, and St. Charles, including improved transit connections from neighborhoods to HCT stops	Transit
C-3	3rd Street high-capacity transit with mobility hubs near Robal Road, downtown Bend, and Murphy Road	Transit
C-7	Butler Market Road intersection capacity improvements	Roadway Capacity/Safety
C-9	US 97 northbound/Colorado Avenue traffic signal	Roadway Capacity/Safety
C-10	Reduce turn movements at the Reed Market Road/US 97 northbound ramps	Roadway Capacity/Safety
C-13	Mobility Hubs (access to transit, bike share, car share, etc.) at key gateways and activity centers	Multimodal
C-16 (Not mapped)	TDM program for major employers and institutions	Technology
C-19 (Not mapped)	Improved traffic signal coordination on signalized corridors, including freight and transit signal priority on designated corridors	Technology
C-20	Parking pricing in Downtown Bend	Technology
C-21	Traffic signal priority for freight and transit at signalized intersections on US 97	Technology
C-24*	Study of cost and feasibility of relocating BNSF switchyard	Multimodal
N-1	Reed Market/US 97 Interchange	Roadway Capacity/Safety
N-2	Widen Colorado Avenue / Simpson Avenue roundabout	Roadway Capacity/Safety

N-3	Colorado Avenue / Industrial Way intersection capacity	Roadway
	improvements	Capacity/Safety
N-4	US 97 operational and safety management improvements	Roadway
	as defined by ODOT Parkway Study	Capacity/Safety
N-5	Empire/27th corridor capacity improvements (Include	Roadway
	incremental approach for Empire/27th including right-of-way	Capacity/Safety
	acquisition and monitoring for if/when widening is	
	appropriate. Implement alternate mobility targets and	
	identify smaller projects to improve mobility, reliability and	
	safety)	
LSN (mapped	Complete the biguele law etrage network (LSN)	Pedestrian/ Bicyclist
separately)	Complete the bicycle low stress network (LSN)	-
P-1 (Not	Complete the arterial/collector pedestrian system (sidewalks	Pedestrian/ Bicyclist
mapped)	and crossings)	,
P-2 (Not	Implement a local street sidewalk infill & crossing	Pedestrian/ Bicyclist
mapped)	improvement program	•
/	Adopt policies that allow for more congested conditions in	N/A
Not mapped	some areas of the City and smaller projects to address	
• •	needs	
	Address capital needs backlog to maintain a state of good	Multimodal
Not mapped	repair	
	'	
Not manned	Intelligent Transportation System (ITS) projects and	Technology
Not mapped	programs as defined by the County ITS Plan	

^{*}Indicates project for a feasibility study

Project Type: Multimodal Roadway Capacity/Safety Transit Technology Pedestrian/Bicyclist

Figure 4. Bicycle Low Stress Network



Remaining Key Need for Steering Committee Direction

CTAC agreed that additional east-west roadway connectivity north of Reed Market Road (between 15th Street and 27th Street) is important to provide capacity and route choices to manage congestion on Reed Market Road and other east-west routes. This concept was evaluated in the scenarios as a collector roadway extension of Wilson Avenue from 15th Street to Pettigrew Road. However, CTAC was split on whether the connection should be an extension of Wilson Avenue as a through-collector street or a series of local street connections within the neighborhood. CTAC also discussed whether the connection(s) should extend further east from Pettigrew Road to reach 27th Street.

The technical evaluation for the Wilson Road extension found that it would have potentially significant benefits for managing vehicular congestion. By 2040, the Reed Market Road demand is forecasted to significantly exceed capacity, creating issues with reliability in travel time that could cause peak hour variations in travel time of up to 15 minutes beyond normal conditions. Providing an additional through corridor along Wilson Road between 15th Street and Pettigrew Road was found to reduce demand on Reed Market Road by up to 15%. Connecting further east to 27th Street could provide greater reduction. In addition, the new roadway would provide an additional connection for walking and biking through the area.

However, the extension of Wilson Road is challenged with a number of constraints, including topography, private property impacts, and neighborhood livability. A preliminary alignment review by City staff found that at least five residences would likely need to be purchased to construct a collector roadway extension of Wilson Road to reach Pettigrew Road. In addition, the corridor would use existing local streets through residential areas, creating potential issues with traffic volume in the neighborhood. A series of local street connections may be a viable alternative to providing this connection with reduced property and neighborhood impacts; however, local street connections may not provide as much system capacity/congestion benefit and may encourage cut-through traffic on local streets.

CTAC recommended that the Steering Committee discuss this remaining need and provide direction. Options provided to the Steering Committee included:

- a) Approve a project for the Citywide Transportation Framework, including the type of connection (collector corridor or local street connections) and the eastern extent of the improvement (Pettigrew Road or 27th Street); or
- b) Request further evaluation in Phase 2 of the work program to determine the feasibility, impacts, and benefits of a collector corridor vs. local street connections.
- c) Approve a study for the Citywide Transportation Framework to examine this need in more detail, including a targeted public outreach component, at a later time.

The Steering Committee endorsed Option B by consensus (as amended):

Request further evaluation in Phase 2 of the work program to determine the feasibility, impacts, and benefits of a collector corridor vs. local street connections, including a targeted public outreach component. The evaluation should include assessment of the 9th/Wilson intersection (a roundabout at Wilson/15th is included in the Citywide Transportation Framework)

The project team will report back to the Steering Committee in spring of 2019.

Benefits of Implementing the Citywide Transportation Framework

Implementing the Citywide Transportation Framework will address the Steering Committee's approved Transportation Goals, as summarized in Table 3. The Citywide Transportation Framework will create the basis for a transportation system that increases transportation choices, improves travel time reliability and safety, addresses key vehicular mobility issues, and sets the stage for future changes in transportation technology.

Table 3. Citywide Framework Approach to Addressing Goals

TRANSPORTATION GOAL	CITYWIDE TRANSPORTATION FRAMEWORK APPROACH
Increase System Capacity, Quality, and Connectivity for All Users	 Increase connectivity, mobility, and reliability for vehicular traffic by addressing system bottlenecks. Improve connectivity for people biking by implementing a complete bicycle low-stress network. Improve connectivity for people walking and using mobility devices by creating a connected pedestrian system through sidewalk infill and enhanced pedestrian crossings. Enhance connectivity for people biking, walking, and using mobility devices by implementing current City policy to construct sidewalks and bicycle facilities along with all projects on arterials and collectors. Address the system disruptions caused by railroad crossings and switching activities by studying grade-separation of railroad crossings at Reed Market Road and relocating switching activities outside of the City. Manage system demand by implementing transportation demand management in key regional centers, increasing transit service and connections to other modes, and pricing downtown parking.
Ensure Safety for All Users	 Upgrade rural roads within the City to provide connections for all modes to growth areas. Address known safety issues at locations with high-crash rates or severe/fatal crashes with enhanced traffic control, crossing treatments, etc. Provide grade-separated crossings of high speed/volume corridors for walking and biking. Implement access management and operational enhancements on US 97 consistent with the ODOT US 97 Parkway Plan outcomes. Implement a complete bicycle low-stress network. Implement a connected pedestrian network. Upgrade rural roads within the City to city standards to provide connections for all modes to growth areas. Minimize the barrier effect of future high-speed/high-volume roadways by monitoring the need for widening to multiple through-traffic lanes and implementing improvements as needed over time.

TRANSPORTATION GOAL	CITYWIDE TRANSPORTATION FRAMEWORK APPROACH
Facilitate Housing Supply, Job Creation, and Economic Development to Meet Demand/Growth	 Improve connectivity in areas for future growth, including the collector roadway system identified in the UGB expansion process. Upgrade rural roads within the City to city standards to provide connections for all modes to growth areas. Anticipate future growth to the east and south by supporting right-of-way acquisition for future widening of Empire/27th and a study of a new river crossing south of Reed Market Road. Address key freight bottlenecks including implementing the North Parkway FEIS projects, supporting the current ODOT US 97 Parkway Study through access management and operational improvements, and recommending improvements to the south end of US 97. Provide transportation systems (transit, mobility hubs, walking/biking corridors) in key urban corridors/centers to
Protect Livability & Enguro	support the land use vision of higher density, mixed-use.
Protect Livability & Ensure Equity & Access	 Implement complete biking and walking networks. Reduce through traffic on local streets by addressing key system bottlenecks on arterial and collector roadway corridors with new connections and additional capacity. Include projects that improve access throughout the City, with a focus on improvements to accessibility on Bend's eastside. Improve transit headways, including high-capacity transit on key corridors, and improve transit service connections mobility hubs. Minimize the barrier effect of future high-speed/high-volume roadways by monitoring the need for widening to multiple. through-traffic lanes and implementing improvements as needed over time.
Steward the Environment	Implement demand management policies and programs, increase transit service and connections, and provide complete walking and biking networks to limit increases to VMT/capita.
Have a Regional Outlook & Future Focus	 Leverage investments by ODOT (US 97 Parkway) and Cascades East Transit to improve the transportation system. Utilize technology to optimize transportation system performance (e.g., enhanced traffic signal coordination and ramp metering). Create transportation mobility hubs where residents and visitors can link traditional transit with new transportation modes (e.g., ride share, bike share, micro transit), including connections to regional transit or vanpool trips. Address bottlenecks on key corridors in/out of Bend.
Implement a Comprehensive Funding & Implementation Plan	 Support prioritization in spring 2019 to match investments with an emerging funding plan. Manage maintenance and operations costs by limiting increases in lane miles of roadway. Monitor the need for major roadway widening projects as growth occurs and new transportation technology and mode choices emerge.