

Citywide Transportation Advisory Committee Meeting #5

MEETING DATE: August 22, 2018
 MEETING TIME: 2-6 p.m.
 LOCATION: Bend Municipal Court

Objectives

- Review draft scenarios and develop recommendation to Steering Committee on scenarios
- Review draft performance measures and develop recommendation to Steering Committee

Agenda

Time	Topic	Desired CTAC Action (major actions in bold)	Lead
2 p.m.	Welcome, introductions <ul style="list-style-type: none"> • Introductions • Review agenda • Approve meeting #4 summary • Parking lots for meetings <i>Meeting summary #4 provided in packet</i>	Approve meeting summaries	Mike Riley, CTAC Co-Chair Kristin Hull, Jacobs
2:15 p.m.	Public comment <i>Up to three minutes per person at discretion of committee</i>	N/A	Steve Hultberg, CTAC Co-Chair
2:30 p.m.	Funding Work Group report out <i>Presentation only</i>	No action	Karna Gustafson, CTAC Co-Chair
2:35 p.m.	Goal preamble <ul style="list-style-type: none"> • CTAC Co-Chair report back • Committee discussion • Recommendation to include preamble to goals <i>Draft preamble provided in packet for review</i>	Recommendation to Steering Committee on preamble	Steve Hultberg, CTAC Co-Chair
2:50 p.m.	Performance measures	Recommendation to Steering Committee	Matt Kittelson, KAI

	<ul style="list-style-type: none"> • Dot voting to identify measures that need discussion • Discuss performance measures • Develop CTAC recommendation <p><i>Revised performance measures provided in packet for review</i></p>		
3:30 p.m.	Break	N/A	All
3:40 p.m.	<p>Scenario review breakout</p> <ul style="list-style-type: none"> • Introduce scenarios in large group • Review draft scenarios and modify • Review MPO TAC and City Staff input on each scenario • Rotate three times so all CTAC members review all scenarios <p><i>Draft scenarios provided in packet for review</i></p>	Review and modification of proposed scenarios	Chris Maciejewski, DKS Associates CTAC Co-Chairs/technical staff
4:50 p.m.	<p>Scenario recommendation</p> <ul style="list-style-type: none"> • Report out on small group comments • Discuss scenarios: <ul style="list-style-type: none"> ○ Do the projects support the ideas underlying each scenario? ○ Are the scenarios distinct and complete? • CTAC direction on recommendation to Steering Committee 	Recommendation to Steering Committee	Kristin Hull, Jacobs Mike Riley, CTAC Co-Chair
5:40 p.m.	Evaluation process and next steps	No action	Chris Maciejewski, DKS Associates
5:50 p.m.	Public Comment	N/A	Steve Hultberg, CTAC Co-Chair
6 p.m.	<p>Close and next meeting</p> <ul style="list-style-type: none"> • Next meeting: November 13/14 • Neighborhood workshops 	No action	Karen Swirsky, City of Bend

Accessible Meeting Information

This meeting/event location is accessible. Sign language interpreter service, assistive listening devices, materials in alternate format such as Braille, large print, electronic formats and audio cassette tape, or any other accommodations are available upon advance request. Please contact Susanna Julber no later than August 20 at sjulber@bendoregon.gov or 541-693-2132. Providing at least 3 days notice prior to the event will help ensure availability.

Draft: Citywide Transportation Advisory Committee Meeting #4 Meeting Summary

MEETING DATE: July 19, 2018

MEETING TIME: 2-5 p.m.

LOCATION: Trinity Episcopal Church, 469 NW Wall Street, Bend OR 97701

Meeting Overview

- Understand Phase 1 process for Transportation Plan work
- Committee approved motion to forward goals to Steering Committee, 12 in favor, 4 against.
- Committee was introduced to performance measures
- Committee reached broad agreement on draft scenario themes

Attendance

CTAC Members

- | | |
|---------------------------------|-----------------------------------|
| 1. Ariel Mendez | 16. Mike Riley |
| 2. Casey Davis | 17. Nicole Mardell |
| 3. Chad Sage <i>absent</i> | 18. Peter Werner <i>absent</i> |
| 4. Dale Van Valkenburg | 19. Richard Ross |
| 5. Dean Wise | 20. Ruth Williamson <i>absent</i> |
| 6. Garrett Chrostek | 21. Sally Jacobson |
| 7. Gavin Leslie | 22. Sharlene Wills |
| 8. Hardy Hanson | 23. Sid Snyder |
| 9. Iman Simmons <i>absent</i> | 24. Steve Hultberg |
| 10. Karna Gustafson | 25. Suzanne Johannsen |
| 11. Katie McClure | |
| 12. Katy Brooks | |
| 13. Keith Wooden <i>absent</i> | |
| 14. Louis Capozzi <i>absent</i> | |
| 15. Mel Siegel | |

Ex Officio Member: Greg Bryant,
Deschutes River Woods

Glenn Van Cise (alternate)

City Staff/Elected Officials

Sally Russell, *Mayor Pro Tem*
Casey Roats, *Mayor*
David Abbas, *Streets Operations Director*
Elizabeth Oshel, *Associate City Attorney*
Emily Eros, *Transportation Planner*
Eric King, *City Manager*
Karen Swirsky, *Senior Planner*
Karin Morris, *Accessibility Manager*
Brian Rankin, *Interim Growth Management Director*
Sharon Wojda, *Finance Director*
Susanna Julber, *Senior Project & Policy Analyst*

Tyler Deke, *Bend Metropolitan Planning Organization (MPO) Manager*
Chris Henningson, *City of Bend Engineer*
Jon Skidmore, *Assistant City Manager*
Russ Grayson, *City of Bend Community Development Director*

Consultants/Presenters

Kristin Hull, *Jacobs*
Chris Maciejewski, *DKS Associates*
Matt Kittelson, *Kittelson & Associates*

Visitors

Dave Kyle
Rick Williams, *ODOT*
Helen Freilich
Robin Werdal
Jeff Monson

Ron Boozel
Steve Porter
Rory Isbell, *Central Oregon Landwatch*
Tim Phillip
Lynn Nebus
Gary Vodden

Summary

2:00 p.m. Welcome, introductions

Kristin Hull, Jacobs, convened meeting.

- Introductions
- Review agenda
- Approve meeting #2 and #3 summaries

Mike Riley, CTAC Co Chair, asked for motion; Sally Jacobson moved, Sid Snyder seconded.

Group approved CTAC Meeting 2 and 3 minutes.

2:05 p.m. State of the Project

Brian Rankin, Interim Growth Management Director, went through project and phase 1 workplan and gave an update on the project schedule and process. Goal 2 Council- leaning into transportation. Meet state law; identify funding. Establish a 20 year vision for what the transportation system could be. We need a plan with projects and how to fund. Ariel Mendez asked about the likelihood of a Bond- Brian said he thinks the council over the next 2 years will attempt to figure that out, with advisement from CTAC. Katy Brooks offered it may be multiple options. It'll likely be more than one option. The TSP has standards and rules to make sure we're hitting on local needs that complies with the requirements to get plan approval. Regional needs- then we dive into local needs. MTP needs to be completed and approved in 2019.

2:25 p.m. Open House Report

Karen Swirsky, Senior Planner/ TSP Project Manager, went through the Open House results; the results were scrubbed the results to get accurate count. Full report will be completed end of July. Katie McClure – asked if we can analyze based on demographics. Kristin Hull, Jacobs, said no, this isn't a statistically valid survey, but as part of our outreach will ask demographic information. Joshua Romero will be coordinating specifically to underserved populations during Phase 2 of the project

2:30 p.m. Public comment

- *Richard Ross & Sally Jacobson- Boulder's TSP and opportunity to hear from Transportation Mgr. in Boulder in October. Asked for assistance from CTAC.*

- *Tim Phillips- addressed committee regarding south UGB bridge. Explained state rules regarding state waterway laws. Asked Committee to be aware of the rules regarding the development of bridges. He put the rules into the record. Warned against building bridge in a federal wild and scenic corridor.*
- *Robin Wardal- reminded Committee about light pollution.*
- *Dave Kyle- lives in SE Bend. Reminding importance of providing services near neighborhoods; dangers of high speed corridors. Need reduced speed. Need grid systems. Fix the grid.*
- *Jeff Monson: in the scenarios, would like to emphasize, encourage, and implement TDM strategies. Discussed the role of Commute Options in facilitating TDM and other programs. Also maximize support from HB 2017.*
- *Steve Porter: Explained concept of supply induced demand; if you expand road capacity, traffic will increase with it. We should build to the future and encourage people to respond to built environment. (Also submitted written testimony).*

2:40 p.m. Funding Working Group report out

Karna Gustafson, CTAC Co Chair, summarized. Mike Riley clarified that FWG will make recommendation to full CTAC.

2:45 p.m. Decision on goals

Committee approved motion to forward goals to Steering Committee, 12 in favor, 4 against.

Revised goals provided in packet for review.

Ariel Mendez and Gavin Leslie discussed the safety and bike goal; expressed concern about getting boxed in by these goals; feels like we aren't looking ahead to future well enough. Steve explained that these are broad goals, not specific projects. Safety and connectivity are critical for cyclists. Katy encouraged the dive down in the next phase- focus more on big stuff. Katie McClure- agrees with Ariel and Gavin. Cautioned that going forward we don't do a one-to-one with the solutions; a solution can achieve multiple goals. Mike Riley- shared concern and linked scenario A. Will we be testing something like separated bike lanes? Kristin – increase system capacity was a council goal for all modes. Kristin suggested forward to SC. Nicole said she thought system capacity also applies for all modes. Katie- we need to make sure that Goal 1 is very well crafted. Richard- will send SC specific wording- but under Goal 1- we don't see anything about parking/ parking management; Goal 3- need objectives to facilitate support for employer TDM programs. Need one for access to major employment and education centers. Goal 4- we need a general objective about increasing walkability. Karna mentioned the minority report. Suzanne- suggested "provide" instead of increase. Sid – does not like the system capacity goal. Mel Siegel cautioned that there needs to be more revisions w/ a subgroup and small group of staff. Steve said this has been done already. Mayor Roats- encouraged committee to not get so hung up on the wording- they represent 90k people. Many people want more capacity. We can't get hung up on capacity now. Steve asked for a motion to approve; Katy seconded.

Discussion: Ariel still wants to mention protected bike lanes. In other cities this is the only way that we're increasing them.

A connected bike network accessible to all.

Kristin called the question- 12 for, 4 against moving the goals to Steering Committee.

Break at 3:20. Reconvened at 3:35.

3:05 p.m. How we measure effectiveness of scenarios

- Use of goals and performance measures
- What are performance measures and example performance measures
- Discussion: does this approach to developing and using performance measures make sense?

Information provided in Performance Measure and Scenario memo

Matt Kittelson, Project Engineer, went through the presentation. Explained performance measures as a tool to measure effectiveness of the scenarios. Karna clarified that these are more than just examples, these are ones that consultant know they can measure. Nicole- demand capacity ratio- sidewalk completeness- would you have a recommendation for CTAC to pursue/shoot for in each performance measure? Gavin- concerned that these are all supply side measures. Should include supply and demand. Where and how will we look at influencing demand? Kristin said she'd note that, we'll talk about it at next agenda item, and then also next meeting. Sally- other peer cities, Boulder, have these percentages and targets already. Need to have goals that are actually measurable. Think we want to go for the goal, then show how we're trending getting there. Suzanne- asked about the master list of 1000s of measurements so we can be aware. Matt said at next meeting we'll dive into that. Some measures sound great, but data is tough to get... some sound not so good but data is available. Katie- for next meeting- what type of measures are there that get at quality of life? Maybe get creative on that. What about future focus? Katie keeps going back to the more we're doing things that are understandable the more we'd maybe want to measure community by in. Maybe we need a resident survey. Karna would like to know what performance measures we can measure and collect data on and then vote on them as a committee. Gavin talked about using real technology. Ride Amigos or Drivers Connect. Wants to incentivize population to use data collection. Steve recommended reading the Transportation Planning Rule guidelines- it has a lot of good info. Susanna will send out link and ODOT website. Katy- recommended coming up with a list of performance measures, break up into groups to look at goals and how they match. Maybe there's prework we can do.

3:40 p.m. Scenario Process

- Why Citywide system?
- What is a scenario?
- How will scenarios be used?

Information provided in Performance Measure and Scenario memo

Kristin: goal isn't to choose scenario a, b, or c, but to pull together a hybrid. Karna- very important to remember these aren't either/ors. Chris: went through presentation and heat maps. Heat maps only include projects in CIP and MPO list. So this only improves those projects. so do we want to change this future? And the question is what do you want to do about this? New facilities- going outside the UGB is a challenge w/ Oregon land use law. Steve- regional model has some of that info on trip origination. Land use is held constant, but mode split is not. Model reacts over time to congestion. The model predicts where mode share may shift. Understanding of scenario process

4:10 p.m. Draft Scenarios

- Possible scenarios
- What we heard from open house

Chris went through safety, capacity, congestion, connectivity, access needs from input from open house. Sharlene asked about parking- Kristin- we didn't ask about parking, and City just completed parking study. We need to look at parking for the TSP but we'll be using a lot of

the research/data already done for parking. Gavin asked about land use and whether if it is out of scope to discuss urban villages.

- Discussion: Do these scenario themes represent the right range of potential futures?

New connectivity, widen and enhance, maximize existing transportation system. Oregon TPR requires you have these core scenarios.

- Discussion: Are there any themes that you don't think are useful to framing the citywide network?

Information provided in Performance Measure and Scenario memo.

River crossings, new corridors, Kristin said new roads that accommodate all users is a policy discussion. Ariel asked about the cost for each of the projects that'd go into the buckets.

Do these scenarios capture your ideas so these are reasonable to you? Ariel- wants to know which of these will move the most people at what cost. Kristin said we'd start that conversation in November, and then again when we're prioritizing projects. Sid commented that at the end of the day, we should shoot for a good mix of projects. Not necessarily the ones we love, but that would be effective in the community. Gavin- this is where demand management plays a huge part.

The TSP team will model the 3 scenarios to start with, per the Performance Measures CTAC selects, and then we'll talk about bringing those together.

Suzanne wanted to add maintenance cost to the discussion. Emily said that maintenance will be covered w/ the FWG- but the scenarios won't be detailed out by maintenance costs. Mike- Scenario C- is it possible to evaluate some of the emerging tech as part of one of these scenarios? Gavin suggested piloting some of these things, as Nicole brought up.

Chris clarified Table 1, Potential investments common to all scenarios. Getting that started by end of August and it is 9 months. (TSAP). Mike asked this gets woven in. Safety is most important value- need to make sure that we can get at this. Gavin suggested roadway design too.

There was agreement among the group to advance these 3 scenarios to more refinement.

4:45 p.m. Public comment (10 minutes)

There was no additional public comment.

4:55 p.m. Close and next meeting

- Next meeting: August 22, Bend Municipal Court
- Additional Workshop on Scenarios- July 27- Municipal Court

5:00 p.m. Meeting Adjourned

Funding Work Group Meeting #2 Draft Summary Notes

MEETING DATE: Tuesday, July 24, 2018
MEETING TIME: 10 a.m. – 12:30 p.m.
LOCATION: Council Chambers at Bend City Hall

Meeting Overview

The Funding Work Group (FWG) reviewed individual potential funding sources and evaluation criteria. The FWG voted and identified eight potential funding sources for further evaluation and eliminated several sources from further consideration.

Attendees

CTAC Members: Ruth Williamson, Nicole Mardell, Dale Van Valkenburg, Katy Brooks, Steve Hultberg, Mike Riley, Suzanne Johanssen, Richard Ross, Karna Gustafson

City Representatives: Emily Eros, Transportation Planner; Brian Rankin, Planning Manager; Sharon Wojda, Finance Director; Camila Sparks, Budget and Financial Planning Manager; Russ Grayson, Community Development Director; Ian Leitheiser, Assistant City Attorney; Tyler Deke, MPO Manager; Susanna Julber, Senior Policy Analyst; Eric King, City Manager; Karen Swirsky, Senior Planner; Jon Skidmore, Assistant City Manager; Karin Morris, Accessibility Manager; Nick Skinner, Community Development Program Technician

Consultants: Lorelei Juntunen, ECONorthwest, Kate Macfarlane, ECONorthwest, Joe Dills, Angelo Planning Group

Public: Dave Kyle, Dave Bryant, Sid Snyder, Mike Walker, Chris Edmonds

Agenda

1. **Welcome, agenda overview, where we are in the process, potential opportunity for public comment (10 minutes)**

Joe Dills reviewed the agenda and the Phase 1 work plan. The work of the FWG is being coordinated with the work of CTAC and SC.

FWG Meeting #1 Summary - Richard Ross requested a change on the bottom of page 2. The discussion was not about sales taxes, but about utility fees. He also clarified that there

was a moratorium on local gas taxes. Katy Brooks moved to approve the summary with Richard's changes. Karna Gustafson seconded the motion. The FWG approved the motion.

Public Comment - No one from the public commented.

2. Follow-ups from questions asked at FWG#1 (information, 10 minutes)

The FWG raised a few questions at meeting #1 and asked staff for additional information. Emily Eros reviewed the questions and provided information about the supplemental local sources of revenue being used in Medford, Corvallis, Hillsboro, and Gresham. A follow-up memo will be sent by email with further information.

3. Funding tools and evaluation criteria (information, 30 minutes)

This agenda included a focused review of funding tools and evaluation criteria, with the intention helping the FWG prioritize the tools. A summary matrix was provided in the meeting agenda packet. Joe Dills reviewed the matrix, including a discussion of each funding tool, the attributes of each tool relative to draft evaluation criteria, other cities that have used the tools, and the (order of magnitude) revenue potential for Bend.

4. Prioritization of Funding Tools for Inclusion in Draft Funding Packages (action, 50 minutes)

Prior to conducting this exercise, Ian discussed conflict of interest disclosure requirements. Steve, Karna, Dale, and Katy declared potential conflicts of interest.

During this agenda item, the FWG members used dots to identify high priority funding options and options that should not be considered. The FWG identified the following funding sources for future consideration. This includes:

- Transportation system development charges
- Local improvement district
- General obligation bond
- Urban renewal funding
- Transportation utility fee
- Local fuel tax (possibly seasonal)
- County vehicle registration fee
- Targeted sales tax

The FWG discussed the reasons for the rankings. The FWG asked that local option levy remain in consideration because it could be paired with other options (like a GO bond) to cover maintenance for new capital.

Following the meeting, the staff and consultant team will use the FWG's rankings to prepare a draft funding packages for discussion at FWG Meeting #3.

Next Steps: Lorelei said ECO will develop several funding packages for FWG consideration. Kate reviewed the funding sources that were identified by the group as being most suitable for further consideration.

Public comment (10 minutes)

Mike Walker, RWNA, suggested the FWG look at new corridors and areas that were added to the UGB, and consider whether there are mechanisms to capture revenue from not just incoming developers, homebuyers, and businesses, but also landowners whose land has been annexed into the UGB and who will benefit from a large profit from selling their property for development. Land in the new UGB areas is very expensive, and the costs are passed onto homebuyers and the landowners are seeing most of the financial gains. As a developer, Mike wants to know how these funding mechanisms will affect land residual value.

5. Next steps and adjourn

DRAFT

Proposed Goal Preamble

The Goals articulated in this document were developed by the Citywide Transportation Advisory Committee (CTAC) after consideration and review of the City Council's articulated goals for CTAC, and through an extensive CTAC-led process of identifying issues and potential solutions from stakeholders in our regional and city transportation systems. CTAC recognizes that the Goals as drafted are not necessarily comprehensive. CTAC acknowledges that there may be additional issues and solutions that should be considered as the project moves forward and CTAC membership learns more about our transportation system, funding options, community interests, and solutions implemented by other jurisdictions. It is the express intent of CTAC through the adoption of the draft Goals that no issue, policy, solution or project should be excluded from CTAC deliberations and recommendations, regardless of whether the issue, policy, solution or project is specifically identified in the current CTAC-adopted draft Goals.

Note: underlined text added based on comment from CTAC member prior to meeting.

TABLE 2: DRAFT TRANSPORTATION PERFORMANCE MEASURES FOR EVALUATING SCENARIOS (Revised 8-17-18. Revisions shown in RED)

PROJECT GOALS	RECOMMENDED PERFORMANCE MEASURES	APPLICATION	EXAMPLE OUTPUT	ALTERNATIVE PERFORMANCE MEASURE
Increase System Capacity, Quality, and Connectivity for All Users	Demand to Capacity Ratio (congestion)*	<ul style="list-style-type: none"> Differentiate between planning scenarios Monitoring program 	<p><i>Planning scenarios:</i> Travel demand modeling tool used to predict where roadway segments or study intersections are at, near, or over capacity. Future alternatives would be compared to future “no build” scenario to see how ratios change.</p> <p><i>Monitoring:</i> Uses data collection program to monitor demand to capacity changes over time</p>	None. Necessary for MPO reporting requirements
	Sidewalk System Completeness	<ul style="list-style-type: none"> Differentiate between planning scenarios Monitoring program 	<p><i>Planning scenarios:</i> Identification of priority routes and type of facility proposed</p> <p><i>Monitoring:</i> Track progress towards sidewalk completeness</p>	Miles of pedestrian facilities <ul style="list-style-type: none"> Monitoring measure that would track construction of pedestrian facilities over time
	Bicycle System Level of Traffic Stress	<ul style="list-style-type: none"> Differentiate between planning scenarios Monitoring program 	<p><i>Planning scenarios:</i> Identification of where comfortable bicycle routes exist, priority routes for improvement, and type of facility proposed</p> <p><i>Monitoring:</i> Track progress towards sidewalk completeness</p>	Completeness of low-stress network <ul style="list-style-type: none"> Identify key low-stress bicycle routes and facilities Monitoring measure that would be used to track the completion of the planned low-stress network
Ensure Safety for All Users	Reported fatal and injury crashes*	<ul style="list-style-type: none"> Monitoring program <p><i>Note: Upcoming Transportation Safety Action Plan (TSAP) will identify specific safety projects</i></p>	<p><i>Monitoring:</i> Reported fatal and injury crashes per year at study intersections or roadway segments</p>	None. Necessary for MPO reporting requirements
	Reported Crashes by Mode	<ul style="list-style-type: none"> Monitoring program <p><i>Note: Upcoming Transportation Safety Action Plan (TSAP) will identify specific safety projects</i></p>	<p><i>Monitoring:</i> Reported crashes over time citywide, along specific corridors, facility types, at specific locations, and by mode</p>	Crash rate at key intersections <ul style="list-style-type: none"> Calculate the rate at which crashes occur (overall and by severity) at key intersections Useful for prioritization, and monitoring Emphasis could be put on high crash rate locations
	Qualitative Assessment of Predicted Crash Rates (consideration of crash rates on 3-lane vs. 5-lane roadway corridors, potential benefits of grade-separated crossings, etc.).	<ul style="list-style-type: none"> Differentiate between planning scenarios 	<p><i>Planning scenarios:</i> Identification of overall crash rates for different scenarios.</p>	<ul style="list-style-type: none"> One of the above measures

PROJECT GOALS	RECOMMENDED PERFORMANCE MEASURES	APPLICATION	EXAMPLE OUTPUT	ALTERNATIVE PERFORMANCE MEASURE
Facilitate Housing Supply, Job Creation, and Economic Development to Meet Demand/Growth	Vehicle Hours of Delay*	<ul style="list-style-type: none"> Differentiate between planning scenarios Monitoring program 	<p><i>Planning scenarios:</i> Travel demand modeling tool used to predict vehicle hours of delay experienced by users. Future alternatives would be compared to future “no build” scenario to see how delay is reduced</p> <p><i>Monitoring:</i> Uses data collection program to monitor delay along specific corridors</p>	None. Necessary for MPO reporting requirements
	Peak Hour Vehicle Miles Travelled on Rural Facilities (diversion)	<ul style="list-style-type: none"> Differentiate between planning scenarios 	<p><i>Planning scenarios:</i> Travel demand modeling tool used to identify where travel demand increases on/diverts to rural facilities</p>	<p>Average trip length</p> <ul style="list-style-type: none"> Estimate trip length system-wide or within defined area Useful for planning, prioritization, and monitoring Trip lengths could be monitored over time
	<p>Travel Time Reliability*</p> <p><i>Note: The project scope/budget does not currently include application of this measure. Project management will discuss the ability to add this to the process, including coordination with ODOT’s analysis team.</i></p>	<ul style="list-style-type: none"> Differentiate between planning scenarios Monitoring Program 	<p><i>Planning scenarios:</i> ODOT maintained tool to assess the reliability on travel times on major corridors. If travel times can be confidently predicted, drivers can plan their trips to arrive on time. Travel time reliability is especially important for freight and public transportation. Future scenarios would be compared to the future “committed” scenario to see if travel times are maintained or improved.</p> <p><i>Monitoring:</i> Use data collection program or secure data from private vendors to monitor reliability along specific corridors.</p>	None. MPO must consider aggregate travel time reliability.
Protect Livability and Ensure Equity and Access	Employment accessibility (e.g., average distance to employment lands)	<ul style="list-style-type: none"> Monitoring program 	<p><i>Monitoring:</i> Annual report card on changes employment accessibility</p>	<p>Percentage of collector roads with an ADT above 4,000</p> <ul style="list-style-type: none"> Would identify where roads are being utilized above intended purpose
	Measure performance through equity lens such as poverty, race, age, and disability	<ul style="list-style-type: none"> Differentiate between planning scenarios Monitoring program 	<p><i>Planning scenarios:</i> Provide a “populations served” rating for projects based on existing demographics information and travel model flow information</p> <p><i>Monitoring:</i> Annual report card on transportation system to various populations</p>	<p>Percentage of vulnerable populations within ¼ mile of sidewalks, bicycle facilities, or transit</p> <ul style="list-style-type: none"> Would measure access to multimodal facilities for vulnerable populations

PROJECT GOALS	RECOMMENDED PERFORMANCE MEASURES	APPLICATION	EXAMPLE OUTPUT	ALTERNATIVE PERFORMANCE MEASURE
	<p>Employment accessibility (ex. Number of jobs that the majority of Bend residents can reach, within a reasonable timeframe. This is calculated for each mode.)</p>	<ul style="list-style-type: none"> Differentiate between planning scenarios Monitoring program 	<ul style="list-style-type: none"> <i>Planning:</i> Measure how well the transportation system enables residents to get from home to work, for whichever mode they choose to use <i>Prioritization:</i> Identify projects (e.g. low-stress bike connections, transit schedule changes, roadway links) that would have the greatest increase in residents' ability to reach employment across the city <i>Monitoring:</i> Track how employment accessibility is improved over time, based on land use, demographic, and transportation changes 	<p>Instead of (or in addition to) focusing on employment, an accessibility measure could measure access to schools, parks, or other types of destinations.</p>
Steward the Environment	Vehicle Miles Traveled Per Capita*	<ul style="list-style-type: none"> Differentiate between planning scenarios Monitoring program 	<p><i>Planning scenarios:</i> Travel demand modeling tool used to estimate number and length of trips per capita. Future alternatives would be compared to future "no build" scenario to see how number of trips and miles driven change.</p> <p><i>Monitoring:</i> Uses data collection program to monitor miles driven over time</p>	<p>None. Necessary for MPO reporting requirements, which may also include GHG assessments.</p>
Have a Regional Outlook and Future Focus	Arterial Roadway Miles with Demand to Capacity Ratio Deficiencies	<ul style="list-style-type: none"> Differentiate between planning scenarios Monitoring program 	<p><i>Planning scenarios:</i> Travel demand modeling tool used to estimate arterial roadway performance. Future alternatives would be compared to future "no build" scenario to see how performance along arterials changes.</p> <p><i>Monitoring:</i> Uses data collection program to monitor congestion along arterials over time.</p>	<p>Travel times along key corridors:</p> <ul style="list-style-type: none"> Estimate how long a trip down key corridors would change between future scenarios Useful for planning, prioritization, and monitoring Travel times could be monitored over time
	Mode Split*	<ul style="list-style-type: none"> Monitoring program 	<p><i>Monitoring:</i> Annual reporting measure that identifies drive along, shared ride, walk, bike, and transit trips.</p>	<p>None. Necessary for MPO reporting requirements</p>
Implement a Comprehensive Funding and Implementation Plan	Cost	<ul style="list-style-type: none"> Differentiate between planning scenarios 	<p><i>Planning scenarios:</i> Planning level cost estimates for individual projects and scenario packages</p>	<p>None</p>

*Recommended measures that are part of MPO planning requirements

Citywide Transportation Scenarios for Review

PREPARED FOR: CTAC
COPY TO: City of Bend
PREPARED BY: Project Team
DATE: August 17, 2018

Introduction

On July 20, CTAC approved three draft scenarios for further development. This memo presents the full scenarios developed at the CTAC workshop on July 27 for review and discussion by CTAC at their August 22 meeting. At CTAC #5, CTAC will be asked to review scenarios A, B and C, make changes to the scenarios if needed, and develop a recommendation to the Steering Committee about the scenarios to be evaluated. Following approval by the Steering Committee, the scenarios will be evaluated to identify the best performing elements which will be used to craft a hybrid Citywide Transportation Framework scenario.

For background on what scenarios are, how they will be used and the baseline improvements included in all scenarios, see the [Performance Measures and Scenario](#) memo prepared for CTAC #4.

Project and Program Ideas

Scenarios are packages of projects and programs organized around a theme. The projects and programs included in the three citywide scenarios were generated from four sources:

- Small group exercise at CTAC #3
- Public input from open house and online open house
- Technical team
- Existing plans

At the July 27 workshop, CTAC members reviewed all project and program ideas and set some aside. CTAC members also generated new or additional ideas as they populated scenarios.

CTAC Scenario Workshop

At the CTAC workshop on July 27, participants populated scenarios with project and program ideas. At the workshop, CTAC members:

- Reviewed project and program ideas determining which ideas should be included in a scenario and which should be set aside.
- Identified other project or program ideas that should be included in a scenario.
- Matched project and program ideas to scenarios A, B and C.

Technical Review

Technical staff who participate in the Metropolitan Planning Organization Technical Advisory Committee and City of Bend staff reviewed the scenarios developed at the CTAC workshop. Their technical comments on the scenarios are summarized in Tables 1, 2 and 3 for CTAC consideration. In a few cases, technical staff recommended evaluating a project that CTAC members set aside at the July 27 workshop. Those projects are included in the proposed scenarios but are noted with an asterisk on the table and maps.

Proposed scenarios

The proposed scenarios approved by CTAC on July 20, are:

- Scenario A: Build New Corridors. Scenario A would include projects that focus on constructing new roads and extending existing roads, building new bridges and crossings of barriers, and adding key multi-use paths.
- Scenario B: Widen and Enhance Existing Corridors. Scenario B would include projects that focus on projects that widen existing corridors and upgrade them to include missing walking and bicycling facilities, without major new roadways, bridges, or paths.
- Scenario C: Maximize the Existing Transportation System. Scenario C would maximize our existing system with increased use of technology and transportation demand programs, without major new capital improvement projects.

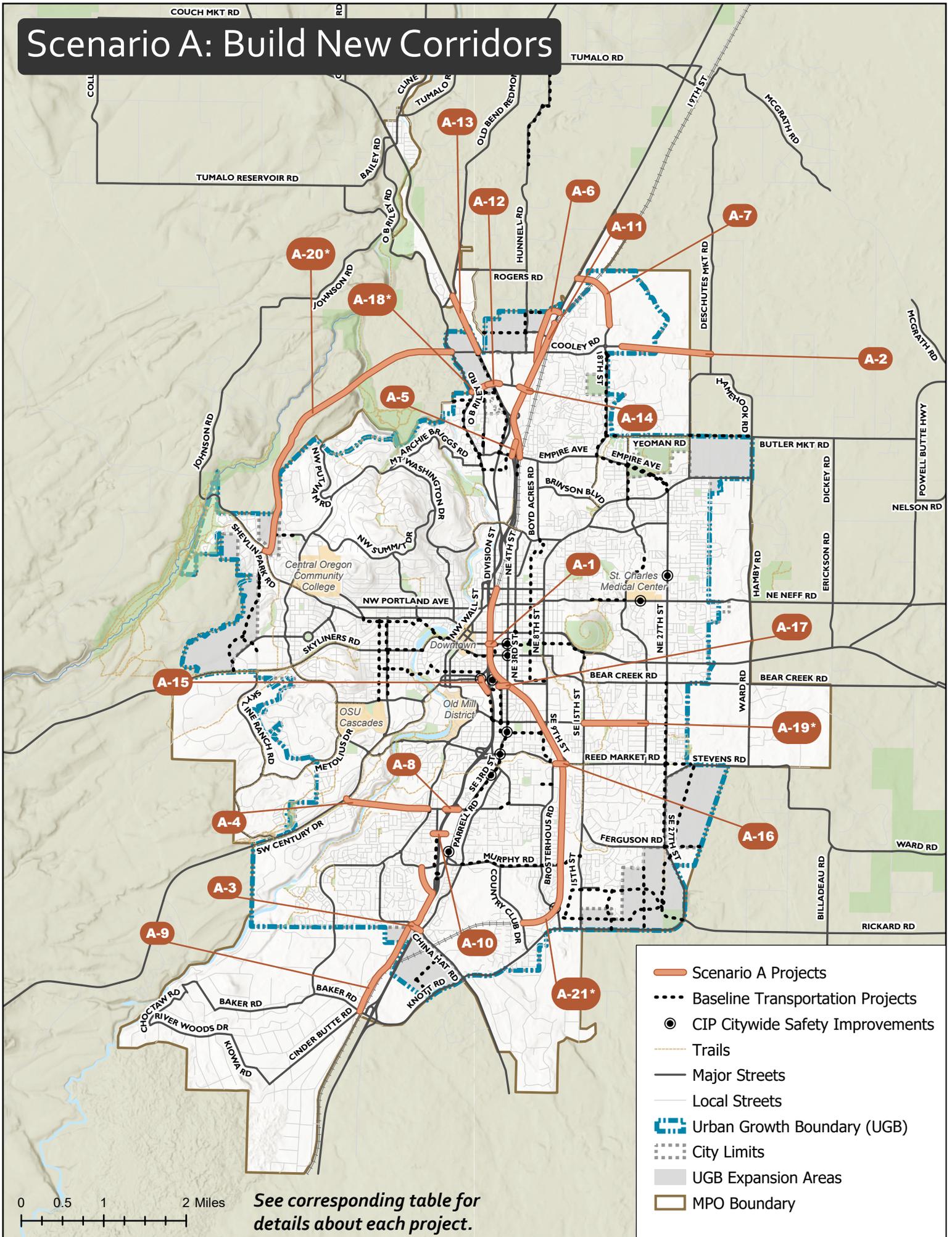
The projects and programs for each scenario are presented in Tables 1-3 and the attached figures. All scenarios include a common set of baseline improvements identified in the current Bend MPO Transportation Plan and City 5-year Capital Improvement Plan.

Needed CTAC Action on Scenarios

At the CTAC meeting, we will be looking for a recommendation in answer to the question:

- Are these the draft scenarios that we want to take to the Steering Committee in September to get approval to begin evaluation?

Scenario A: Build New Corridors



0 0.5 1 2 Miles

See corresponding table for details about each project.

Table 1. Projects to Include in Scenario A

SCENARIO A: Build New Corridors	Number	Project	Need	Technical Team Comments (Staff & TAC)
<ul style="list-style-type: none"> • Construct new roads • Extend existing roads • Add new crossings of system barriers such as the Parkway, railroad, or river • Add key regional multiuse paths and connections 	A-1	Hawthorne Avenue Grade-separated Crossing at US 97/Railroad	Barriers for bicyclists & pedestrians through central Bend	
	A-2	Cooley Road Extension (between 18th Street and Deschutes Market Road)	East-West Corridor Congestion	
	A-3	Ponderosa Street/China Hat Road Overcrossing of US 97	East-West Corridor Congestion	
	A-4	South River Crossing (between Century Drive and US 97)	East-West Corridor Congestion	Scenic River boundary ends at UGB.
	A-5	US 97/Empire Avenue Southbound off-ramp	US 97 Corridor Capacity/Safety (Empire to Cooley)	
	A-6	US 97 North Parkway Extension (from Grandview Drive to US 97)	US 97 Corridor Capacity/Safety (Empire to Cooley)	
	A-7	US 97 North Interchange with connection to 18th Street	US 97 Corridor Capacity/Safety (Empire to Cooley)	
	A-8	Powers Road/US 97 Interchange	US 97 Corridor Capacity/Safety (Murphy to Empire)	
	A-9	US 97/Murphy Road Frontage Road	US 97 Corridor Capacity/Safety (Murphy to Empire)	
	A-10	US 97 Pedestrian Overcrossing at Badger Road	US 97 Corridor Capacity/Safety (Murphy to Empire)	
	A-11	3rd Street Multi-Use Path (between Empire Avenue and Grandview Drive)	US 97-Hwy 20 Triangle Pedestrian & Bicyclist Access	
	A-12	Pedestrian/Bicycle Overcrossing of US 20 near Robal Road	US 97-Hwy 20 Triangle Pedestrian & Bicyclist Access	
	A-13	US 20 Multi-Use Path (between Cooley Road and Old Bend-Redmond Highway)	US 97-Hwy 20 Triangle Pedestrian & Bicyclist Access	TAC recommends extending the path from Cooley south to Empire Avenue.
	A-14	Pedestrian/Bicycle Overcrossing of US 97 near Robal Road	US 97-Hwy 20 Triangle Pedestrian & Bicyclist Access	
	A-15	Trail connection from Colorado Avenue towards Division Street	Colorado Interchange Area Capacity & Ped/Bike Access	
	A-16	Reed Market Road Railroad Overcrossing	Reed Market Congestion & Safe Crossings (4th to 27th)	
	A-17	Aune Road extension to 3rd Street	Colorado Interchange Area Capacity & Ped/Bike Access	
	A-18	Extend Robal Road from US20 to OB Riley Road*	North Bend Capacity and Connectivity	
	A-19	Extend Wilson from 15th to Pettigrew*	East Connectivity	
	A-20	North River Crossing (e.g. Cooley Road) connecting Hwy 20 to NW Bend, 3 lane complete street*	East-West Corridor Congestion	TAC recommends retaining. A northern river crossing may be beyond the 2040 horizon but may be needed for future UGB expansions. A northern river crossing may be beyond the 2040 horizon, but it should be assessed to evaluate its transportation system impacts
	A-21	Grade separate rail crossings at Revere, Wilson, Reed Market, Country Club*	East-West Corridor Congestion	

* Project added by the MPO TAC or City staff after the CTAC workshop for CTAC consideration.

Scenario B: Widen and Enhance Existing Corridors

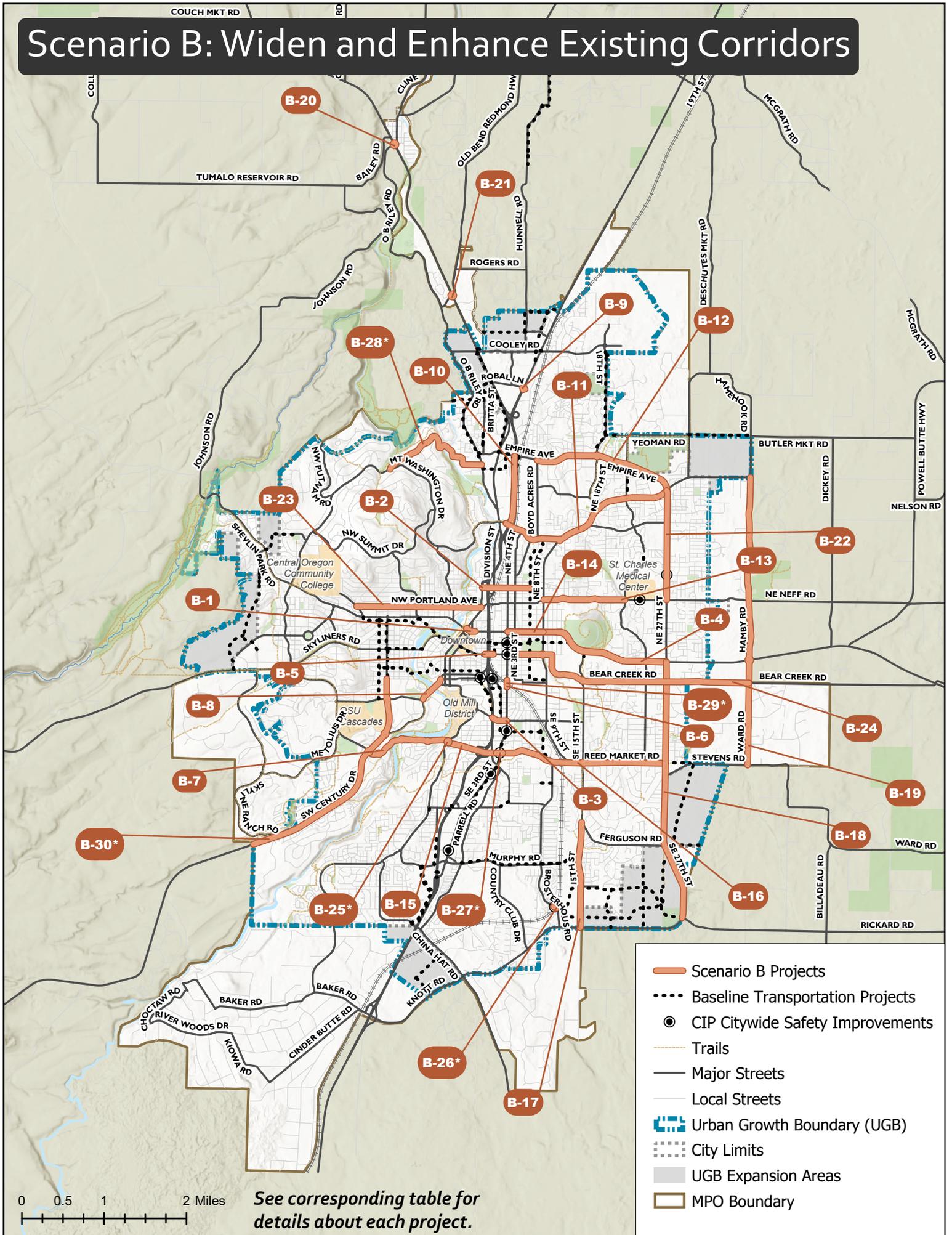


Table 2. Projects to Include in Scenario B

SCENARIO B: Widen and Enhance Existing Corridors	Number	Project	Need	Technical Team Comments (Staff & TAC)
<ul style="list-style-type: none"> • Widen existing roads, intersections, and bridges • Add or improve walking and bicycling facilities along and across existing regional corridors 	B-1	Greenwood Avenue protected bicycle facilities (between Wall Street and Hill Street)	Barriers for bicyclists & pedestrians through central Bend	
	B-2	Revere Avenue bicycle facilities (between Wall Street and 6th Street)	Barriers for bicyclists & pedestrians through central Bend	
	B-3	Wilson Avenue protected bicycle facilities (between 3rd Street and US 97)	Barriers for bicyclists & pedestrians through central Bend	
	B-4	US 20 protected bicycle facilities (from 3rd Street to 27th Street)	Barriers for bicyclists & pedestrians through central Bend	
	B-5	Protected bicycle undercrossing of US 97 at Franklin Avenue	Barriers for bicyclists & pedestrians through central Bend	
	B-6	Protected bicycle undercrossing of railroad at 3rd Street	Barriers for bicyclists & pedestrians through central Bend	
	B-7	Reed Market Road widening (from Century Drive to Bond Street)	East-west Corridor Congestion	
	B-8	Colorado Avenue widening (from Simpson Avenue to Arizona)	East-west Corridor Congestion	
	B-9	US 97/Robal Road intersection capacity improvements	US 97 Corridor Capacity/Safety (Empire to Cooley)	
	B-10	US 97 southbound auxiliary lane (from Empire Boulevard to Butler Market Road)	US 97 Corridor Capacity/Safety (Murphy to Empire)	
	B-11	Butler Market Road widening (from US 97 to 27th Street) with roundabout at Wells Acre Rd	Butler Market Corridor Capacity and Safety Needs (US 97 to 27th)	
	B-12	Empire Boulevard widening (from Boyd Acres Road to Butler Market Road)	Butler Market Corridor Capacity and Safety Needs (US 97 to 27th)	
	B-13	Neff Road protected bicycle facilities and enhanced crossings (from 8th Street to Purcell Boulevard)	Neff Corridor Safety (8th to Purcell)	
	B-14	Greenwood Avenue enhanced crossings (from 3rd Street to 8th Street)	Greenwood Corridor Pedestrian/Bicyclist Safety)	
	B-15	Reed Market Road widening and enhanced pedestrian and bicyclist facilities (from Bond Street to 3rd Street)	Reed Market Congestion (Bond to 4th)	
	B-16	Reed Market Road widening and enhanced pedestrian and bicyclist facilities (from 3rd Street to 27th Street)	Reed Market Congestion and Safe Crossings (4th to 27th)	
	B-17	Corridor Improvements to 15th Street between Ferguson Road and Knott Road, including bike/ped facilities and roundabouts at key intersections	15th Street Capacity and Safety at major intersections (Knott to Wilson)	
	B-18	27th Street widening (from Knott Road to US 20)	15th Street Capacity and Safety at major intersections (Knott to Wilson)	
	B-19	Hamby Road widening (from Butler Market Road to Stevens Road/Ward Road), including a roundabout at US 20	27th/US 20 and Hamby/US 20 Capacity and Safety	
	B-20	US 20 roundabout at Cook/Tumalo	US 20 West Rural Crossing Capacity and Safety	

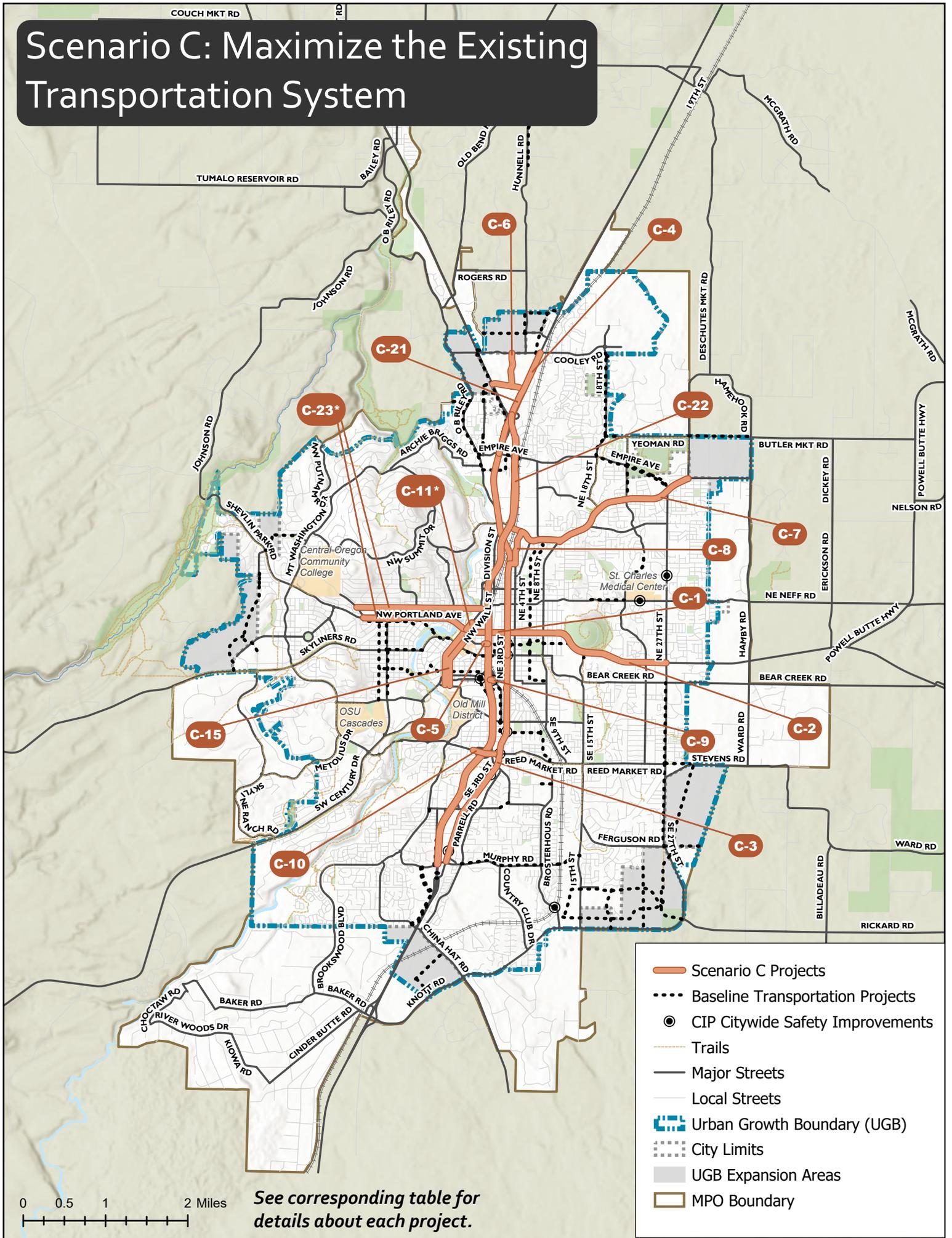
* PROJECT ADDED BY THE MPO TAC OR CITY STAFF AFTER THE CTAC WORKSHOP FOR CTAC CONSIDERATION.

	B-21	US 20 roundabout at Old Bend-Redmond Highway	US 20 West Rural Crossing Capacity and Safety	
	B-22	27th Street widening (from Neff Road to Butler Market Road)	27 th Street capacity	
	B-23	Portland Avenue intersection improvements	Congestion and traffic operations	
	B-24	Protected bicycle facility on Bear Creek Road	Safety and capacity	
	B-25	Widen Bond/Reed Mkt roundabout (partial two lane)*	Bond/Reed Mkt roundabout capacity	
	B-26	Widen railroad undercrossing on Brosterhous*	Bicycle and pedestrian access on Brosterhous	
	B-27	Provide dedicated left turn lanes on Reed Market at 3rd Street – possibly through widening or a road diet*	Capacity on Reed Market Road	
	B-28	Enhance Archie Briggs to a complete street from O.B. Riley to Mt. Washington Dr*	East-West Corridor Congestion	
	B-29	Widen 3rd St to 4 lanes under the railroad, including complete street design*	3rd Street Capacity (Greenwood to Wilson)	
	B-30	Protected bike/ped routes on Century Drive*	Safety and Capacity	

* Project added by the MPO TAC or City staff after the CTAC workshop for CTAC consideration.

* PROJECT ADDED BY THE MPO TAC OR CITY STAFF AFTER THE CTAC WORKSHOP FOR CTAC CONSIDERATION.

Scenario C: Maximize the Existing Transportation System



0 0.5 1 2 Miles

See corresponding table for details about each project.

- Scenario C Projects
- - - Baseline Transportation Projects
- CIP Citywide Safety Improvements
- - - Trails
- Major Streets
- Local Streets
- - - Urban Growth Boundary (UGB)
- · · City Limits
- UGB Expansion Areas
- MPO Boundary

Table 3. Projects to Include in Scenario C

SCENARIO C:	Number	Project	Need	Technical Team Comments (Staff & TAC)	
Maximize the Existing Transportation System <ul style="list-style-type: none"> • Increase bus service along key corridors within Bend, enhance connections to other cities in the region, and make connections to transit easier for more people (first/last mile solutions) • Improve traffic signals and manage US 97 Parkway access to make the system flow better during peak hours • Implement Transportation Demand Management (TDM) programs 	C-1	Greenwood Avenue road diet (from Bond Street to 3rd Street)	Barriers for bicyclists & pedestrians through central Bend		
	C-2	High-capacity transit on the Newport-Greenwood corridor, with mobility hubs at COCC, downtown, and St. Charles	East-West Corridor Congestion		
	C-3	3rd Street high-capacity transit with mobility hubs near Robal Road, downtown Bend, and Murphy Road	US 97 Corridor Capacity/Safety (Empire to Cooley)		
	C-4	US 97 access management (from Cooley Road to US 20)	US 97 Corridor Capacity/Safety (Empire to Cooley)	Part of Parkway Study	
	C-5	US 97 access at Hawthorne Avenue closure	US 97 Corridor Capacity/Safety (Murphy to Empire)	Part of Parkway Study	
	C-6	Enhance bicycle and pedestrian facilities: Robal and Hunnel corridor	US 97-Hwy 20 Triangle Ped/Bike Access		
	C-7	Butler Market Road intersection capacity improvements	Butler Market Corridor Capacity and Safety Needs (US 97 to 27th)		
	C-8	Implement transit service options along Butler Market from downtown into the NE UGB expansion area	Butler Market Corridor Capacity and Safety Needs (US 97 to 27th)		
	C-9	US 97 northbound/Colorado Avenue traffic signal	Colorado Interchange Area Capacity and Ped/Bike Access		
	C-10	Reduce turn movements at the Reed Market Road/US 97 northbound ramps	Reed Market Congestion and Safety (Bond to 4th)		
	C-11	Convert Wall Street to a southbound one-way between Bond and Newport with free right-turn at Wall/Bond and roundabout at Wall and Lafayette*	Congestion and traffic operations	Allows for improved signal coordination	
	C-15	Road diet on Wall and Bond with parking protected bicycle facilities	Bike access to downtown		
	C-21	Traffic signal priority for freight and transit at signalized intersections on 97	US 97 Corridor Capacity/Safety (Empire to Cooley)		
	C-22	Close at-grade US 97 connections and install on-ramp metering	US 97 Corridor Capacity/Safety (Murphy to Empire)		
	C-23	Evaluate one-way streets on Newport and Portland*	General System Capacity		
	Programs and projects that are not mapped				
	C-12	Sign the route from US20 to US97 to continue on 3rd St to Division ramp instead of Empire or provide traveler info.*	Congestion and traffic operations		
	C-13	Mobility Hubs (access to transit, bike share, car share, etc.) at key gateways and activity centers	Transit Service to Outlying Areas		
	C-14	Enhanced transit service to Sunriver/La Pine, Tumalo/Sisters, and Redmond, connecting to Mobility Hubs	Transit Service to Outlying Areas		
	C-16	TDM program for major employers and institutions	Demand management		

	C-17	Reduce speed limit to 20 mph on key routes leading to & within downtown to improve safety for all users	Barriers for bicyclists & pedestrians through central Bend	
	C-18	Increase transit service frequency to 10-min headways on major corridors	East-West Corridor Congestion	
	C-19	Improved traffic signal coordination on signalized corridors, including freight and transit signal priority on designated corridors	East-West Corridor Congestion	
	C-20	Parking pricing in Downtown Bend	Demand management	

* Project added by the MPO TAC or City staff after the CTAC workshop for CTAC consideration.