



2050 Long-Range Transportation Plan

Citizens Advisory Committee

October 29, 2020



Recent Work

Developing and Evaluating Scenarios

- Refined project list, scoring, and weighting
- Developed transportation network scenarios
- Met with MPO committees
- Used regional model and off-model approaches to begin assessing scenario outcomes
- Began planning engagement



Photo: Missoula Current

Proposed LRTP Scenarios

Why Scenario Planning

Objective, Transparent, and Informative

- Evaluate and communicate benefits of multimodal transportation system
- Understand how strategies interact to improve performance
- Illustrate tradeoffs associated with goals and targets
- Respond to stakeholder input to foster productive dialog

SCENARIO EVALUATION RESULTS		
1 = PROVIDE NEW CONNECTIONS	2 = CREATE A MULTIMODAL SYSTEM	3 = TAKE CARE OF WHAT WE HAVE
LOW	HIGH	MED
LOW	HIGH	MED
MED	HIGH	MED
MED	HIGH	MED
LOW	MED	HIGH

Missoula Connect Goals

Use Community Priorities to Evaluate Projects and Scenarios



Improve safety and promote health to enhance quality of life



Advance sustainability and community resilience to protect natural resources and address climate change



Expand mobility choices to improve efficiency and accessibility for people and goods



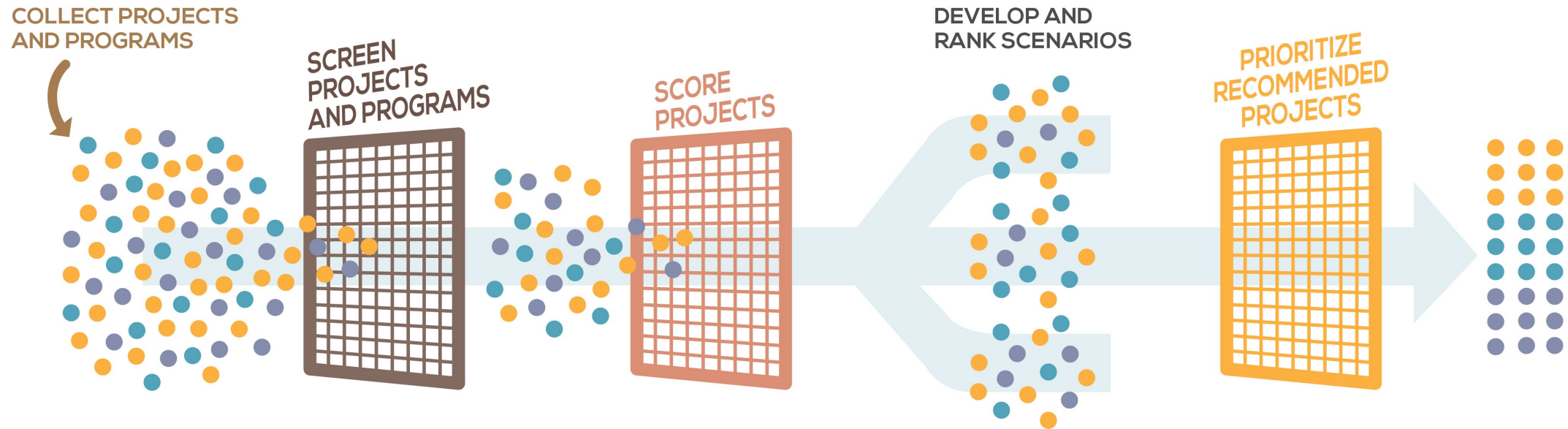
Connect and strengthen communities to create a more equitable region



Maintain assets and invest strategically to boost economic vitality

Our Evaluation Framework

Moving Toward Recommended Projects



Two Growth Scenarios

Use a Consistent Growth Rate

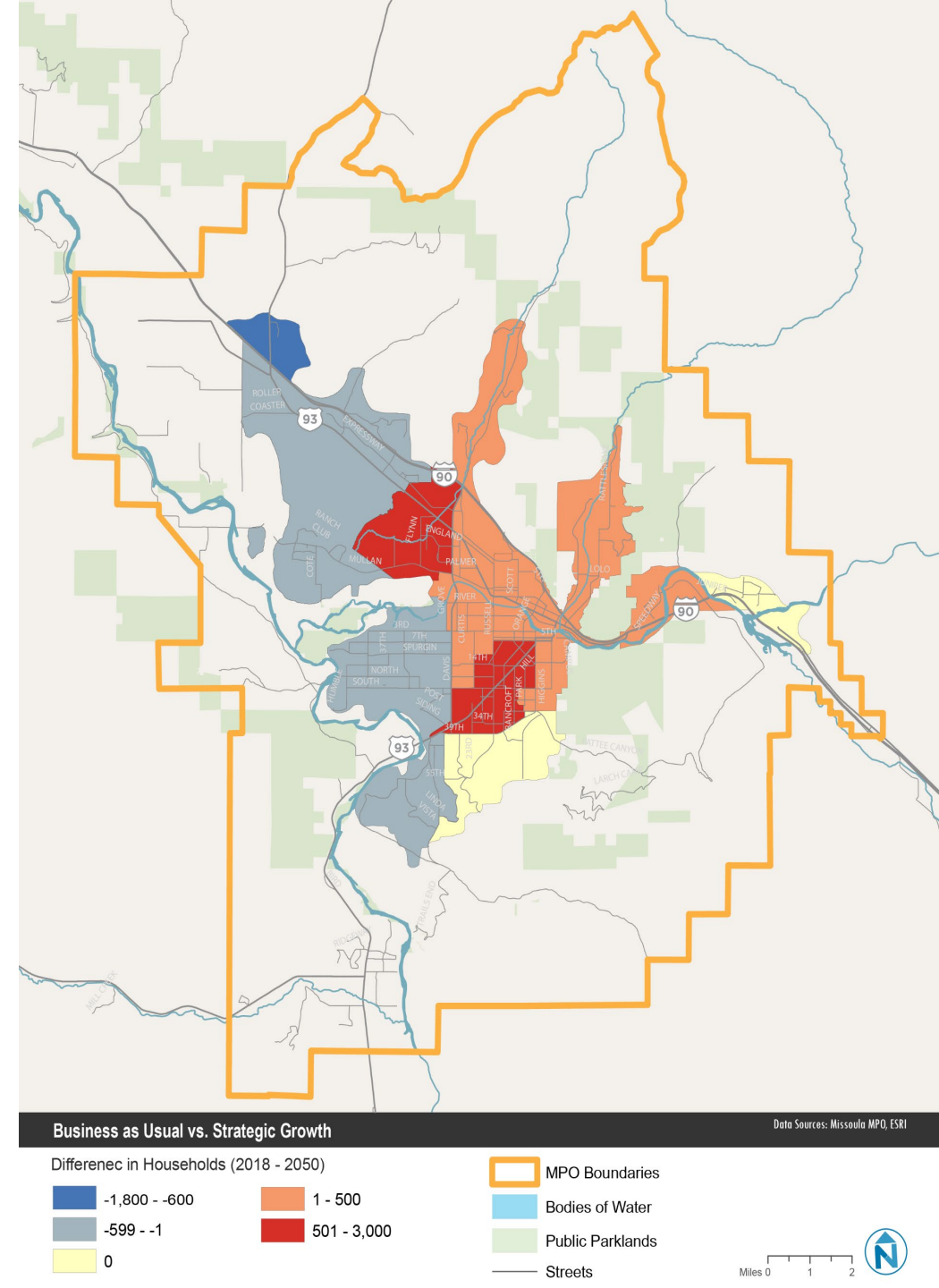
- Anticipated growth rates have been updated recently
- Growth has been steady
- Use scenarios to direct the growth differently
 - Business as Usual: growth occurs where there is capacity to absorb it
 - Strategic Growth: growth is targeted in specific areas



Differences Between Scenarios

Test How Growth Patterns Impact Transportation

- Strategic Growth assumes more focused growth within urban core
- Mullan East increased to match master plan
- Growth shifted to Brooks Corridor, Central, and Russell to Reserve areas
- Growth shifted away from Grant Creek, Miller Creek, Target Range, South Hills, and West Mullan



Three Transportation Scenarios

Focus Network Scenarios to Achieve Desired Outcomes

- Established scenarios that incorporate all modes
- Focused on projects that advance regional goals (but in different ways) and support future growth
- Assigned committed projects to all scenarios (~\$110M in projects)
- Developed revenue forecasts and fiscal constraint (\$178M)



Photo: Missoula Current

Assigning Projects to Scenarios

Used Project Scoring and Weighting to Highlight Priorities

- All Tier 4 and Tier 3 projects assigned to at least one scenario
- Weighted safety and equity and identified transit-supportive and community priority projects to “fill” each scenario
- Select projects added to increase geographic diversity and support ongoing planning efforts



Photo: Mountain Line

The Proposed Scenarios

Create Distinctions Between Combinations of Projects

- New Connections
 - Expand the networks and create new routes for all modes
- Enhanced Connections
 - Maintain and improve the existing network and fill gaps
- Regional Equity
 - Advance a more equitable region and focus on affordability

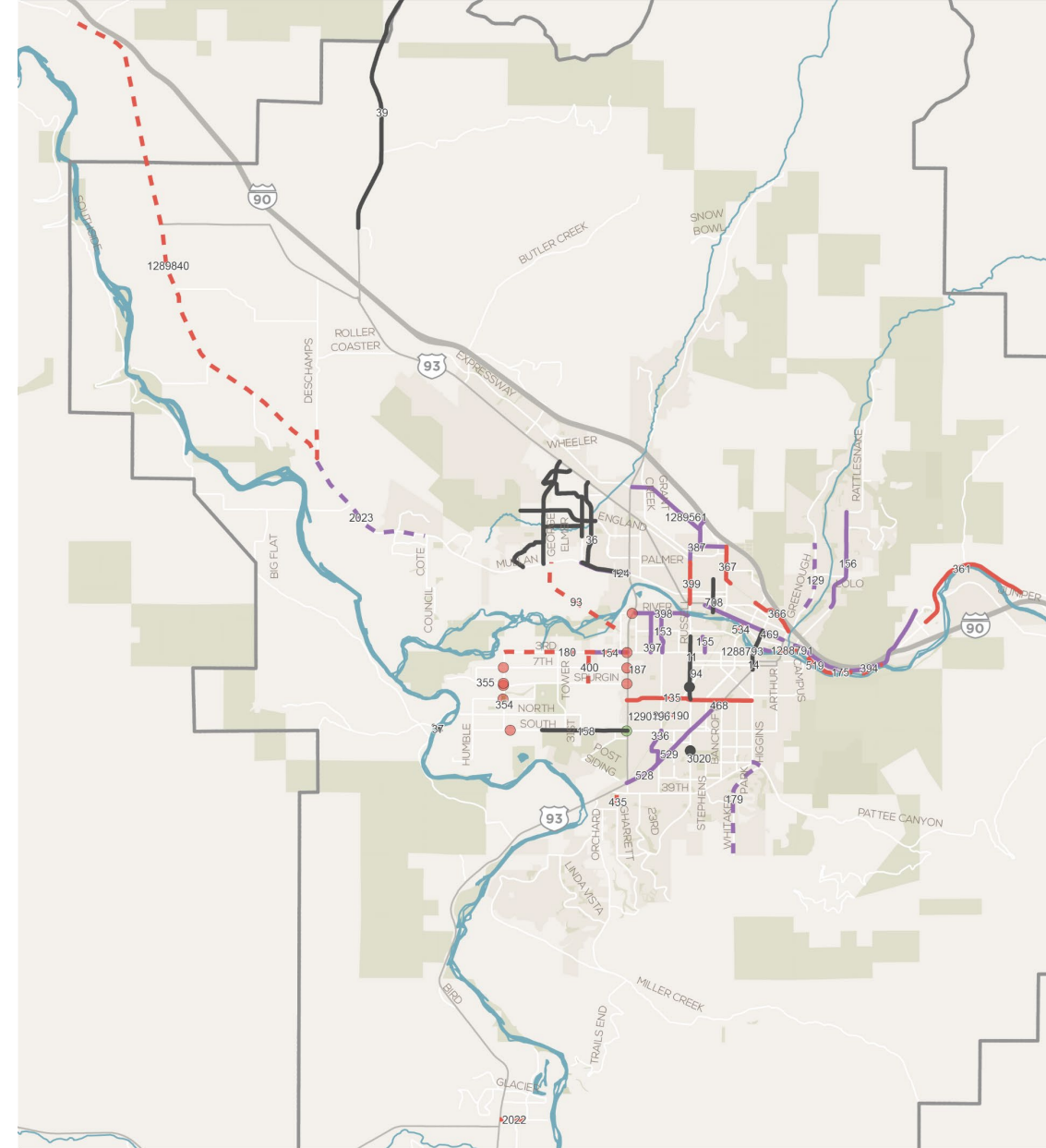


Photo: Missoulian

New Connections Scenario

Create New Routes for All

- Expands the roadway network through complete street reconstruction
- Creates new trails and bridges
- Includes Russell St to I-90, non-motorized bridge from McCormick Park, Brooks St and Mullan Rd reconfigurations



New Connections Scenario

Data Sources: Missoula MPO, ESRI

Intersection Projects

Excluded / Included in Scenario

- Committed
- Safety
- Active Transportation

Corridor Projects

Excluded / Included in Scenario

- Committed
- - - Safety
- - - Active Transportation
- - - Complete Streets and Roadway

MPO Boundaries

Bodies of Water

Public Parklands

Streets

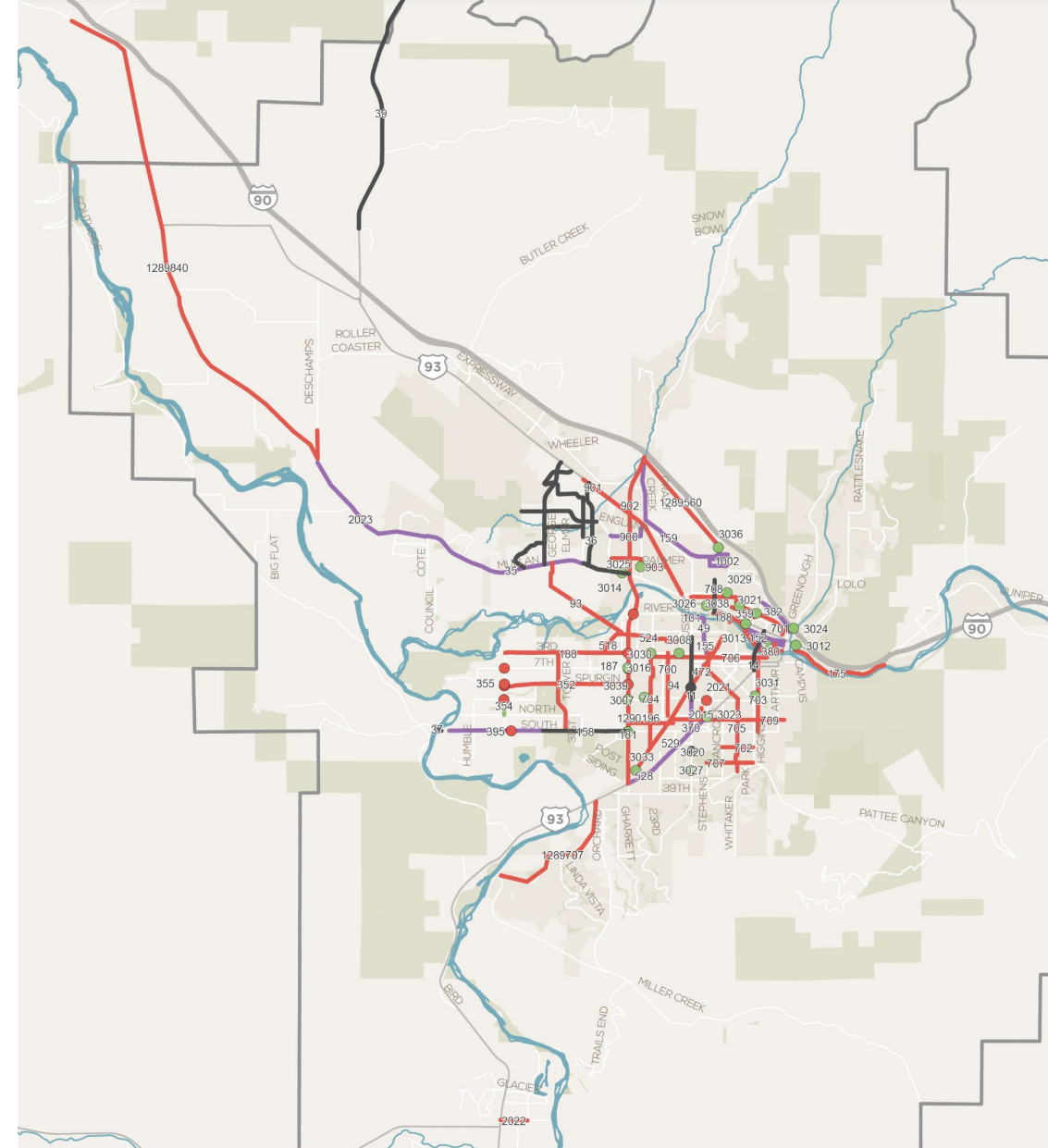
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Enhanced Connections Scenario

Improve Existing Systems

- Maintains and improves the current networks to support inward growth
- Closes gaps and completes improvements
- Includes Ron's River Trail, neighborhood greenways, Orange/Alder intersection improvements



Enhanced Connections Scenario

Data Sources: Missoula MPO, ESRI

Intersection Projects

Category

- Committed
- Safety
- Active Transportation

Corridor Projects

Category

- Committed
- Safety
- Active Transportation
- Complete Streets and Roadway

MPO Boundaries

- Bodies of Water
- Public Parks
- Streets

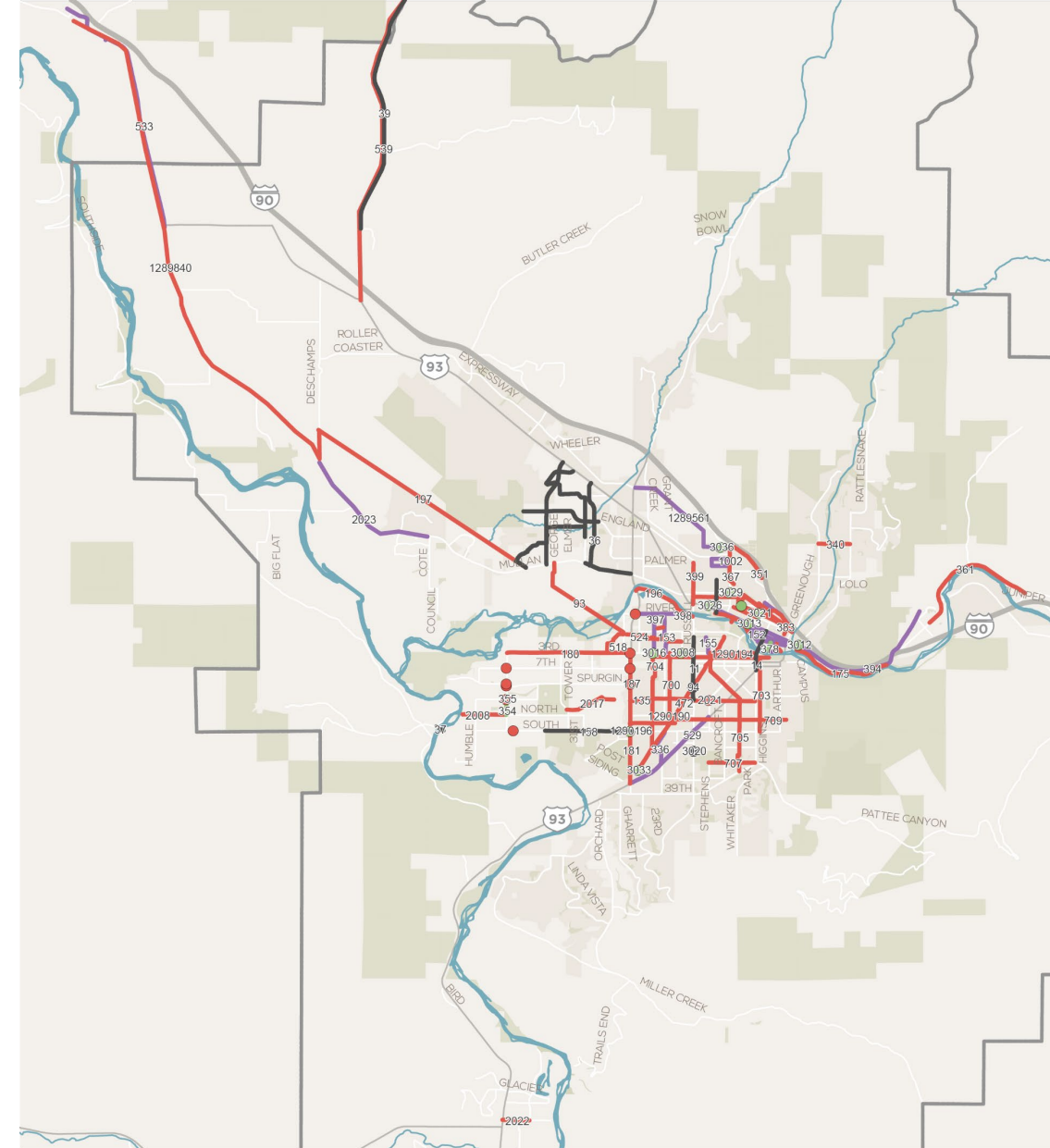
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Regional Equity Scenario

Advance Equity

- Focuses on high-ranking projects in equity weighting and projects in Invest Health neighborhoods
- Represents more equitable use of transportation funds
- Includes Westside Greenway Trail, Inverness Shared-Use Path, Northside Bikeway



Regional Equity Scenario

Data Sources: Missoula MPO, ESRI

Intersection Projects

Category

- Committed
- Safety
- Active Transportation

Corridor Projects

Category

- Committed
- Safety
- Active Transportation
- Complete Streets and Roadway

MPO Boundaries

- Bodies of Water
- Public Parklands
- Streets

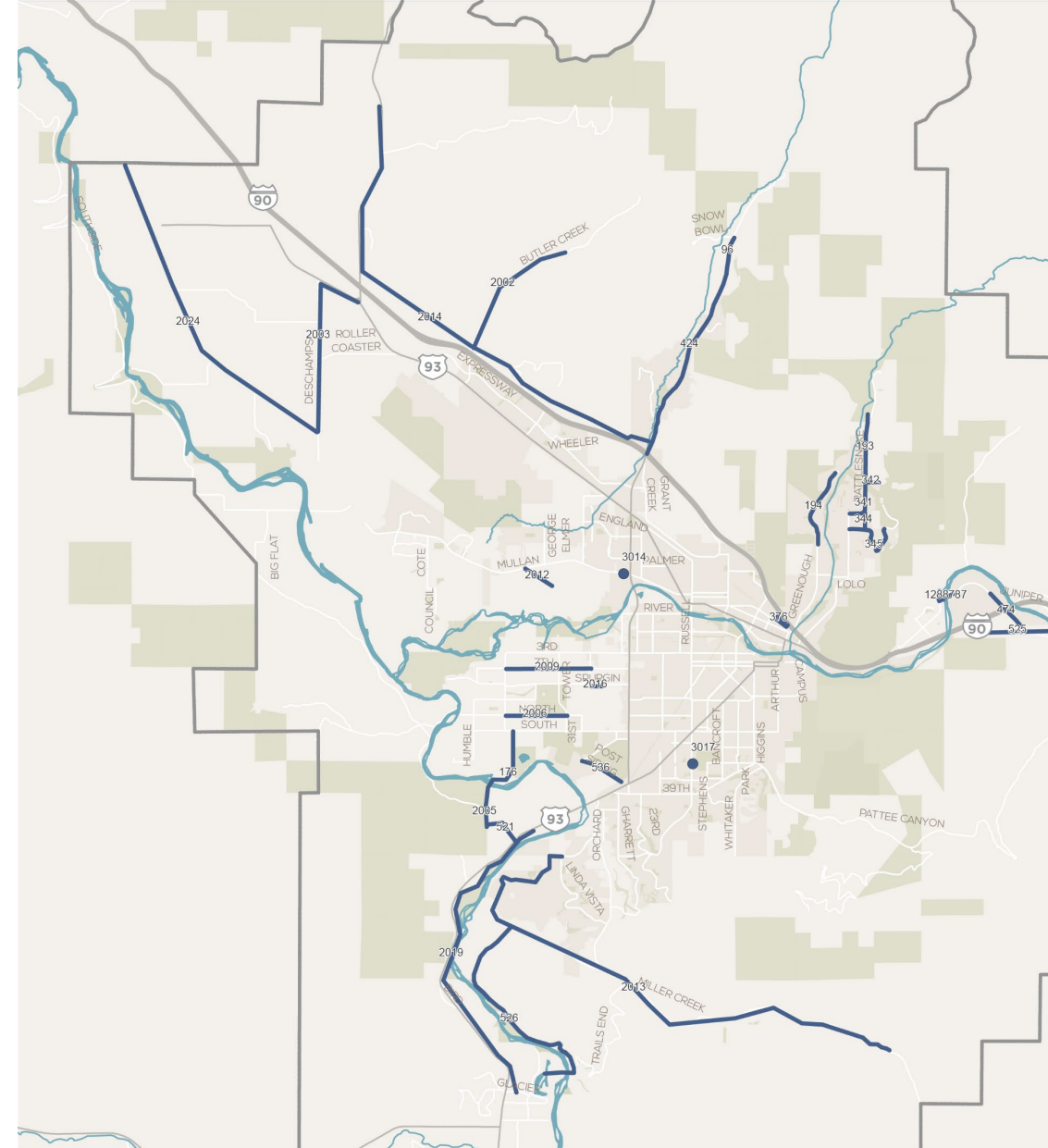
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Illustrative Projects

Beyond Funding Constraint

- Lower scoring or lower priority projects
- May be alternatives to projects currently in scenarios
- Includes Kim Williams Trail Connector, Grant Creek Rd Complete Street, 7th St shoulder improvements



Illustrative Projects

Data Sources: Missoula MPO, ESRI

Intersection Projects
● Illustrative

Corridor Projects
— Illustrative

— MPO Boundaries
— Bodies of Water
— Public Parklands
— Streets

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CAC Discussion

Initial Thoughts and Feedback

- What reactions do you have to the transportation network scenarios?
- Does the overall approach and the distinctions between scenarios make sense?
- How well do the scenarios capture your community's needs and interests?

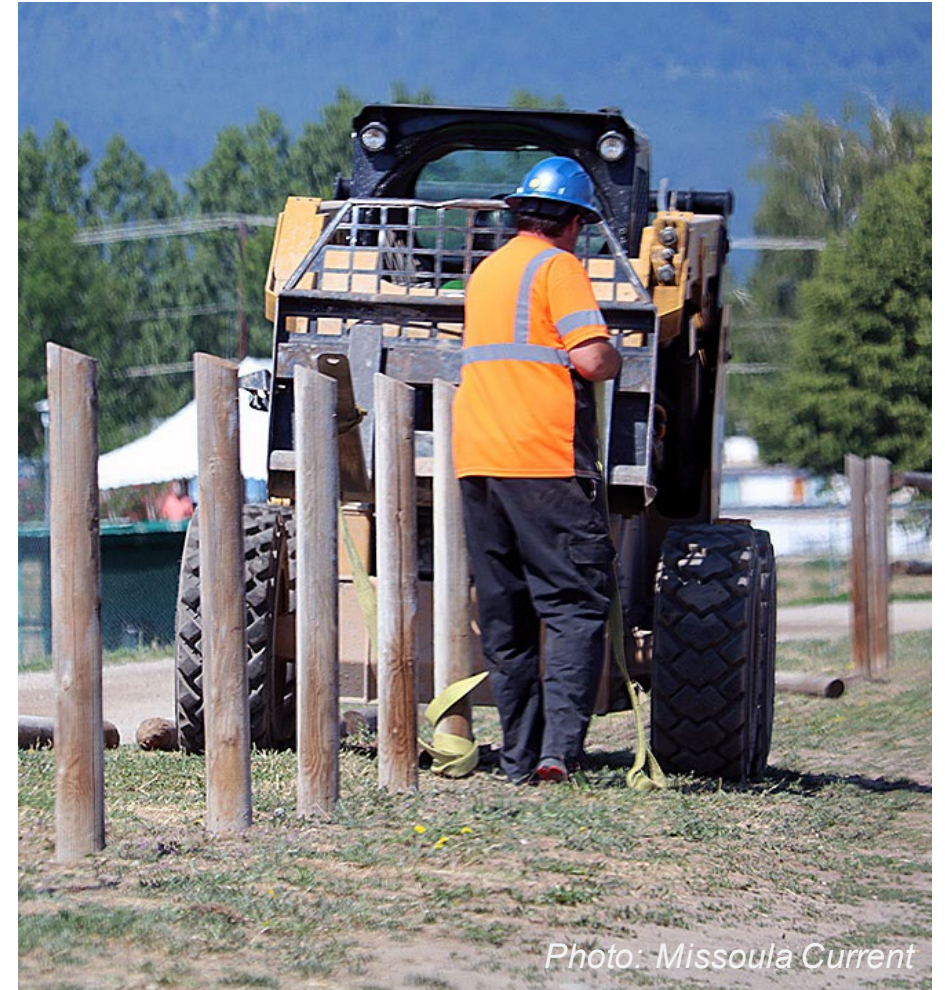


Photo: Missoula Current

Scenario Analysis & Key Findings

Scenario Metrics

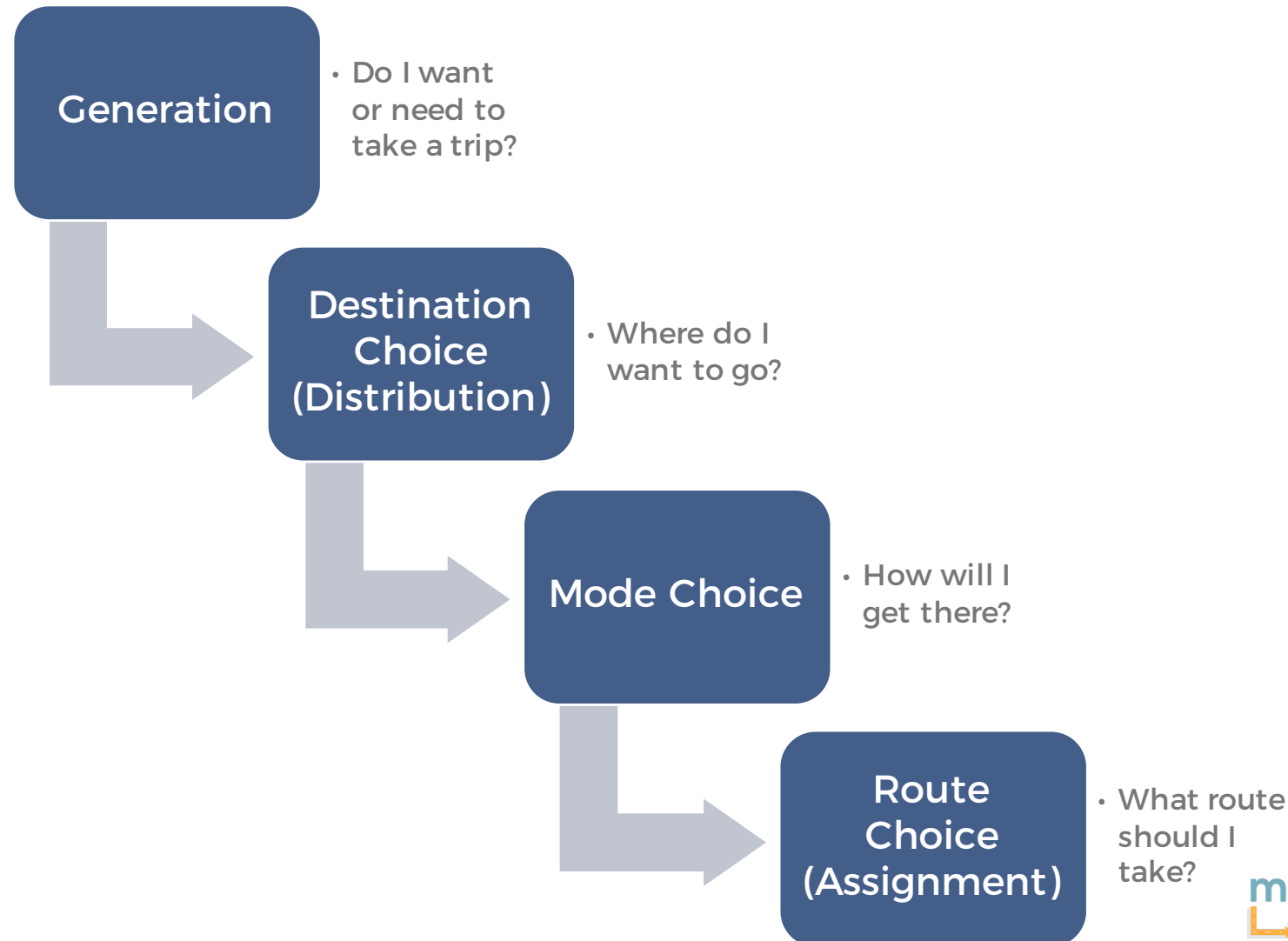
Tie to Goals and Reflect Desired Outcomes



- Safety / crashes
- Mode split (driving, transit, walking, and biking trips)
- Vehicle miles traveled (VMT)
- Delay and travel time
- Greenhouse gas emissions (GHGs)
- Jobs accessibility
- Access to schools, parks, and community places
- Affordability and measures of equity
- Ability to support growth
- Network condition

Regional Travel Demand Model

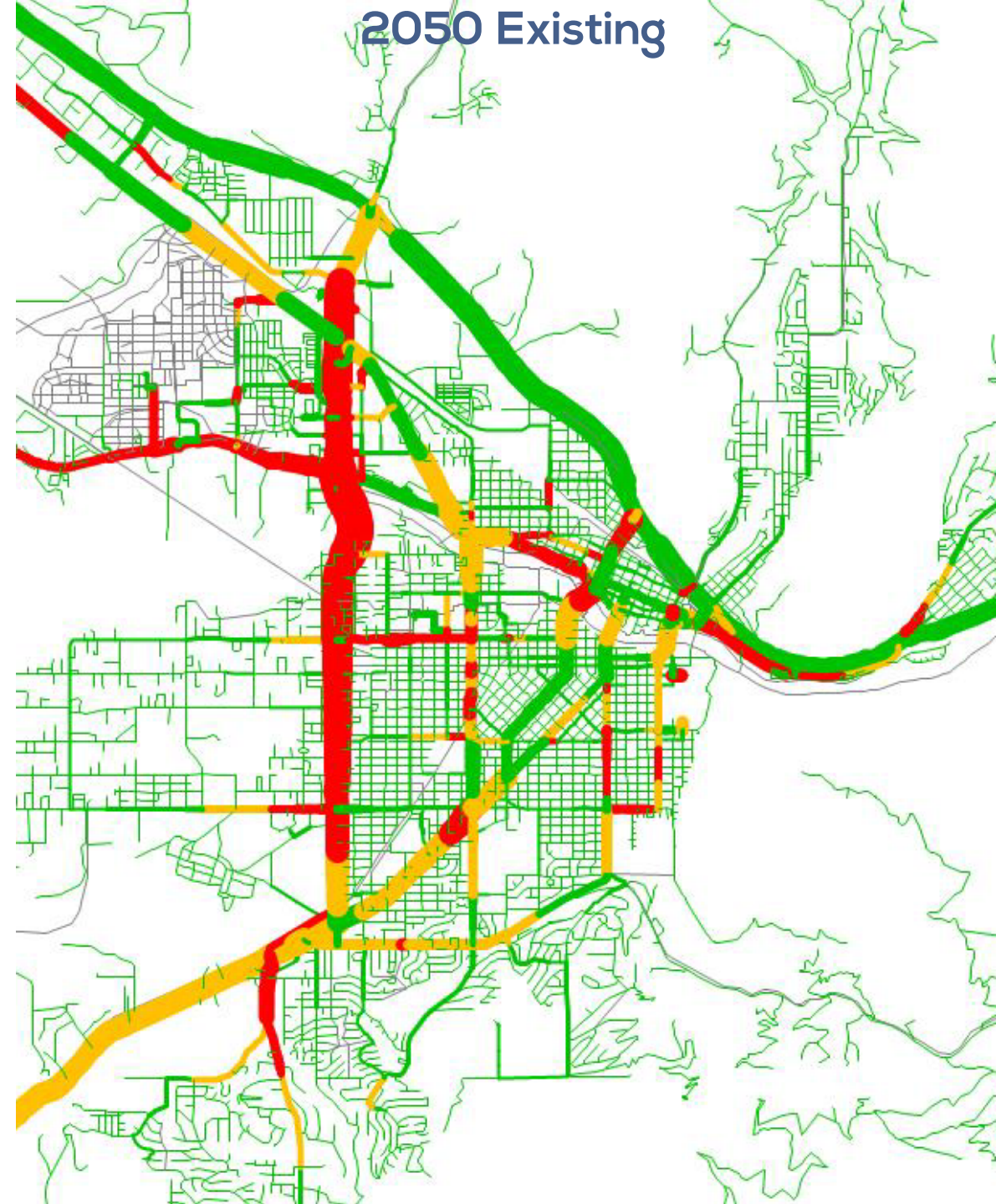
Traditional 4-Step Model



Using Model Outputs

A Powerful Tool ... With Limitations

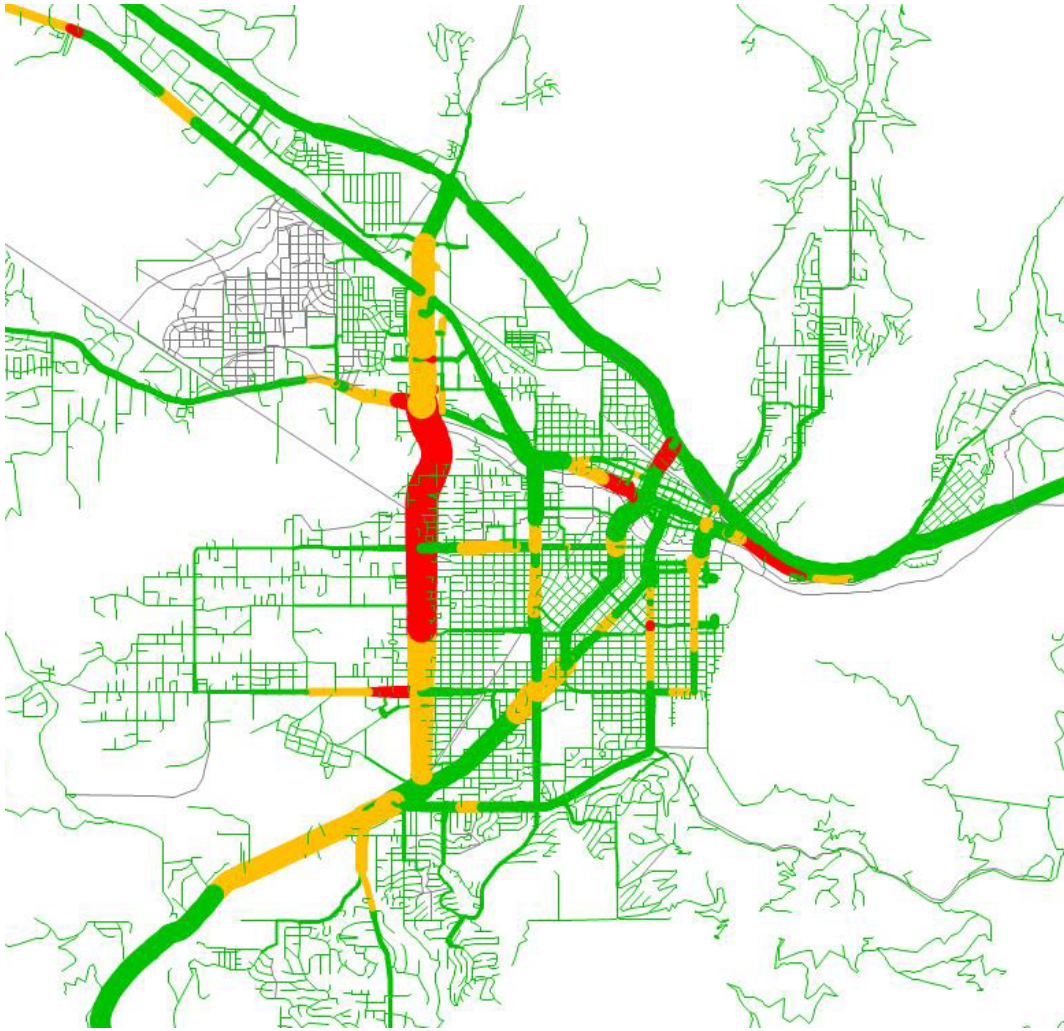
- Allows us to test multiple networks against different growth patterns
- “Predictive” capability is based on key assumptions
- Best for assessing metrics related to vehicle travel time and delay
- Generally not sensitive enough to capture mode change due to network upgrades or enhancements



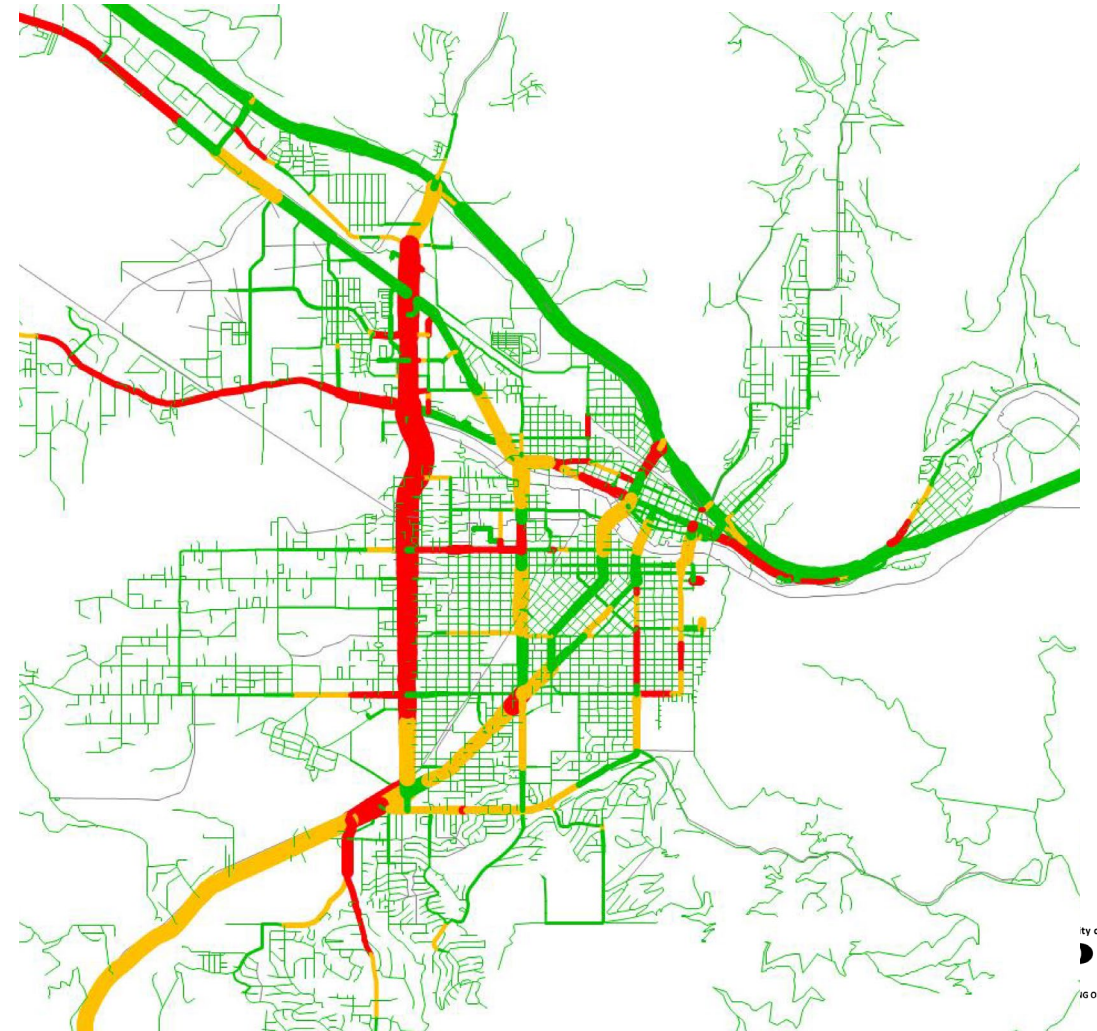
Base Transportation Networks

Current and Reasonably Anticipated Future Conditions

2018 Existing



2050 Base



Comparing Scenarios

Changes in VMT and GHG

- Land use scenarios have a greater impact on vehicle miles traveled (VMT)—and thus greenhouse gas (GHG) emissions—totals than transportation network scenarios
- Strategic Growth generates less VMT than Business as Usual across all networks
- Strategic Growth resulted in 2.2% to 2.9% less GHG emissions depending on network scenario
- New Connections showed the highest GHG reduction potential across transportation scenarios (1.1% to 1.4%)

Comparing Scenarios

Initial 2050 Model Results for Base and Three Networks

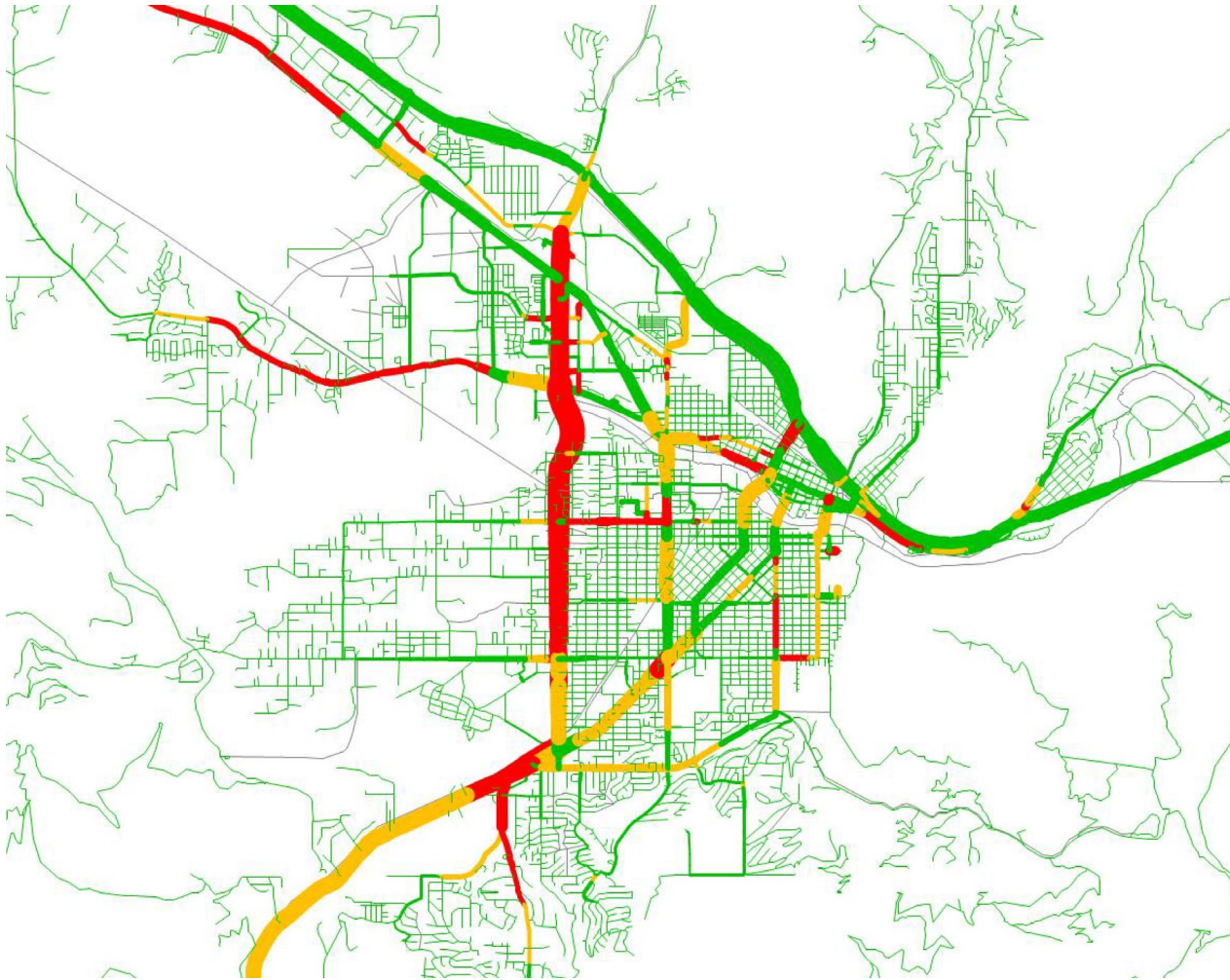
Compared to 2050 Existing Network

Metric	Base		New Connections		Enhanced Connections		Regional Equity	
Growth	Business as Usual	Strategic Growth	Business as Usual	Strategic Growth	Business as Usual	Strategic Growth	Business as Usual	Strategic Growth
Vehicle miles traveled (VMT)								
Vehicle hours of delay (VHD)								
Auto daily person trips (mode share)								
Transit daily person trips (mode share)								
Walk daily person trips (mode share)								
Bike daily person trips (mode share)								

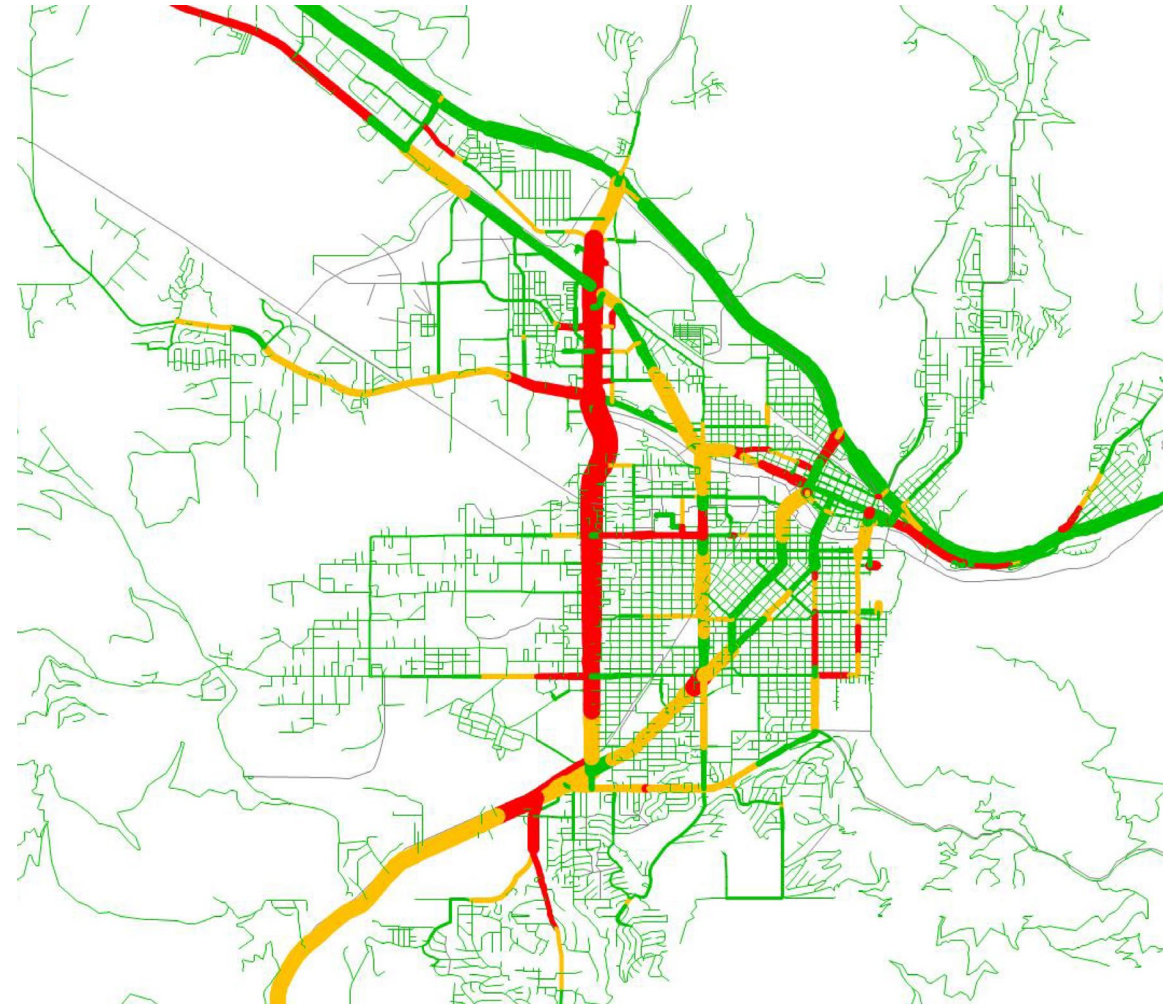
Scenario Level of Service

Transportation Networks Make a Difference

Business as Usual: New Connections

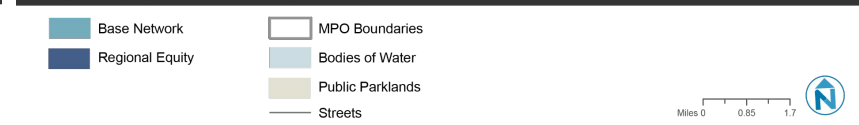
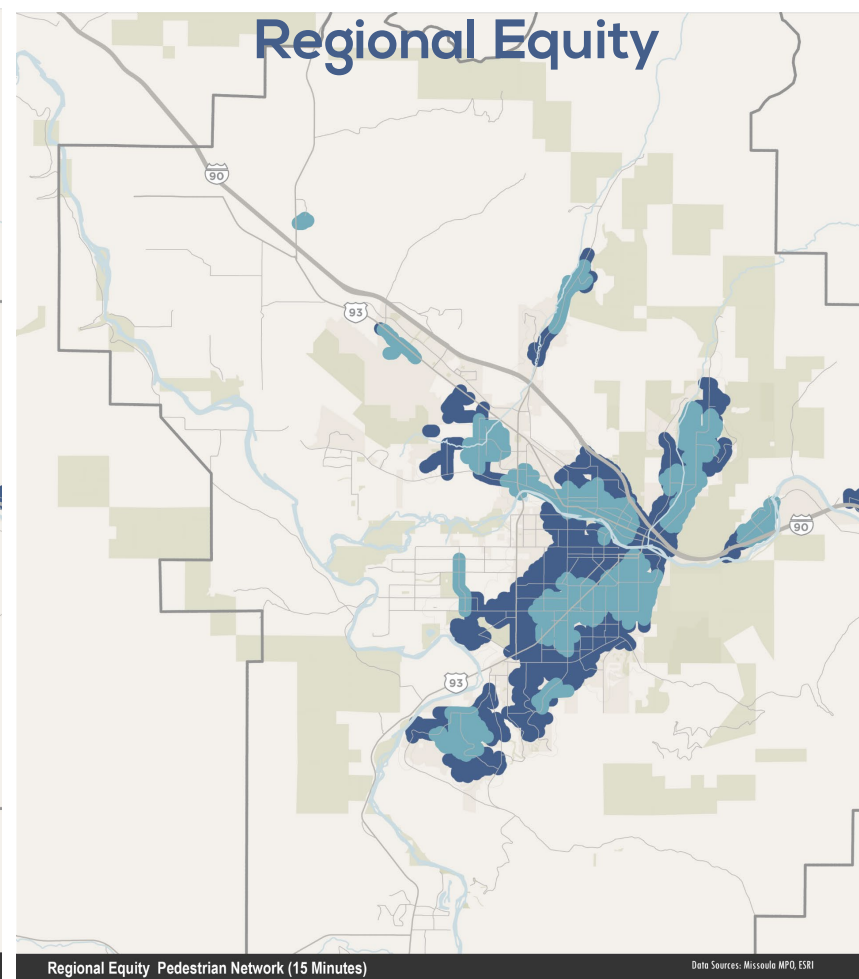
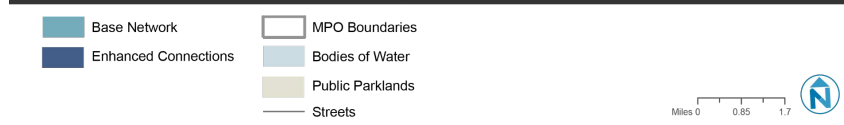
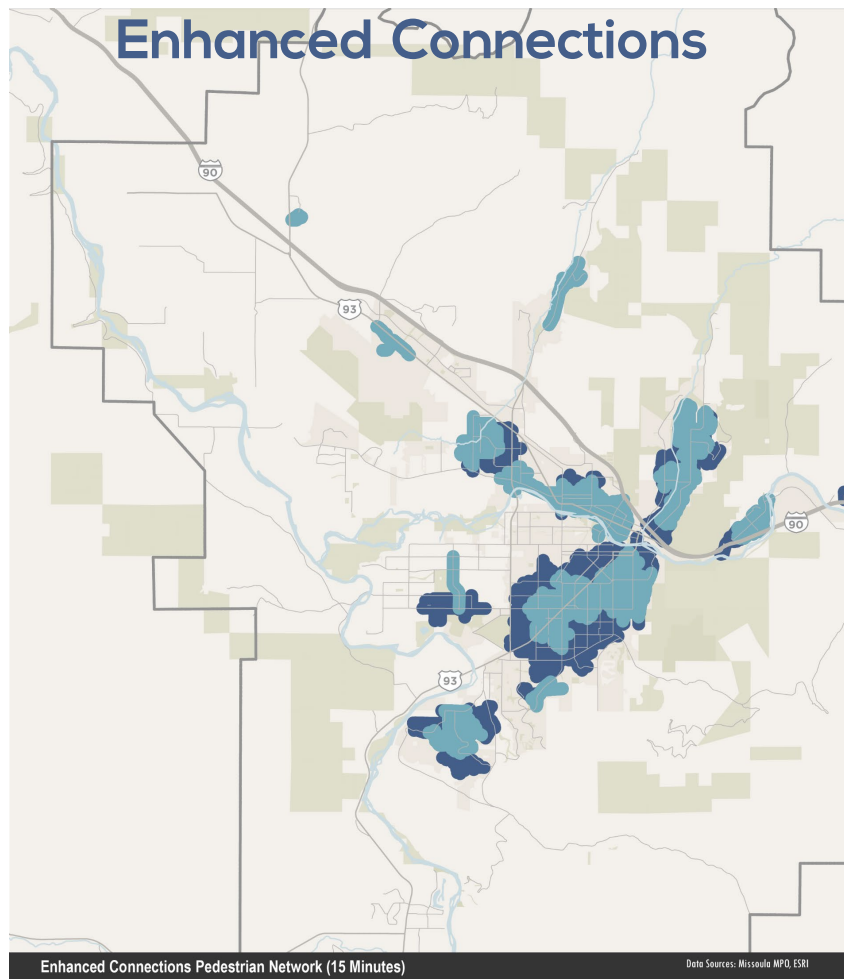
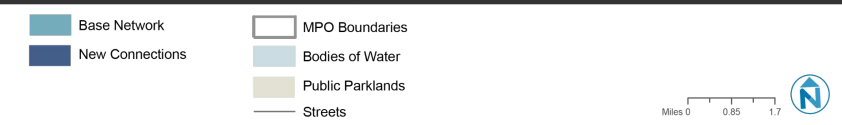
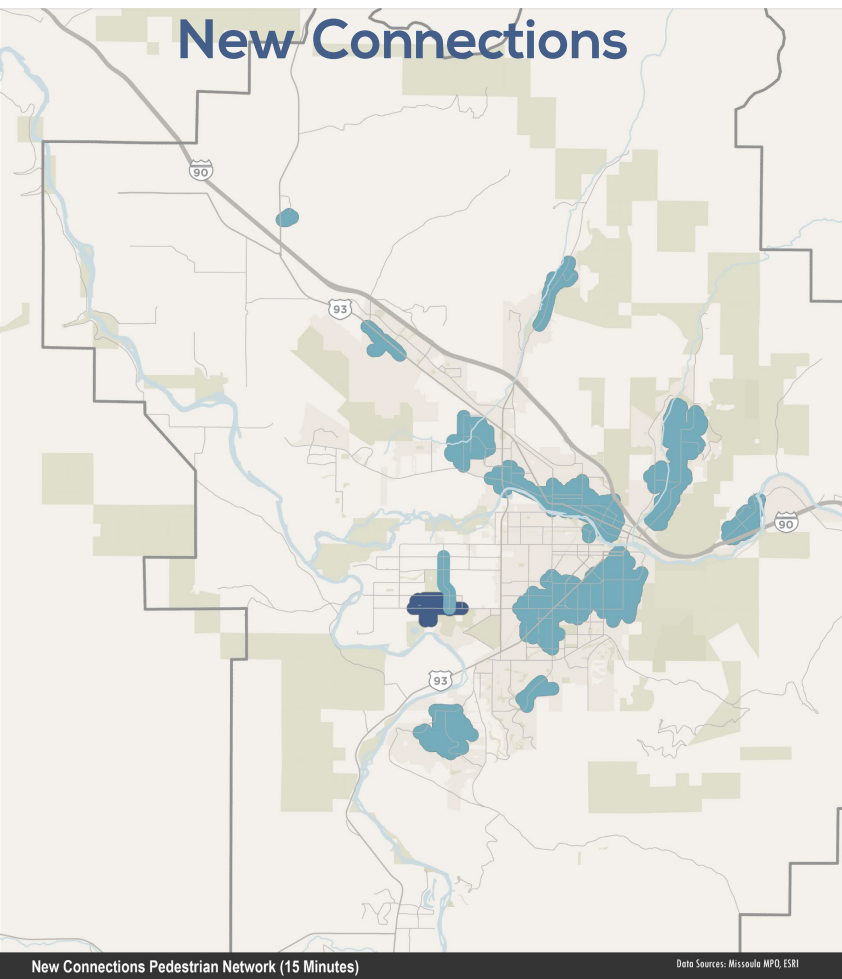


Business as Usual: Enhanced Connections



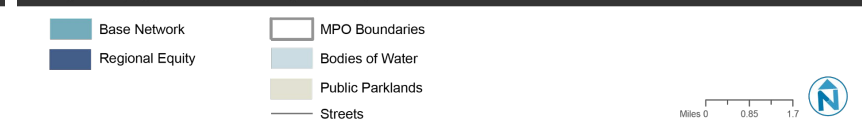
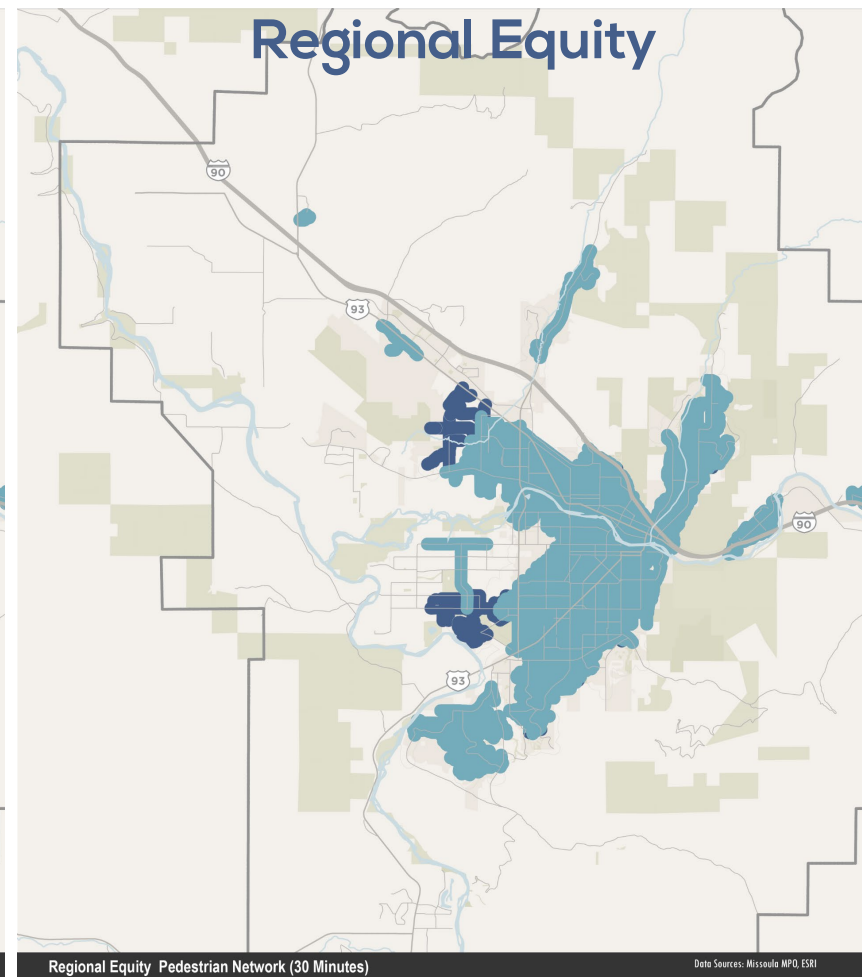
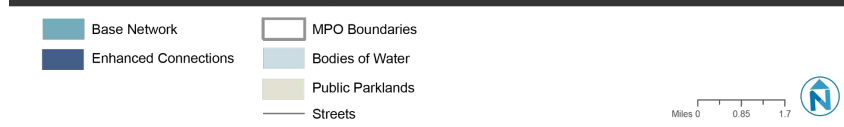
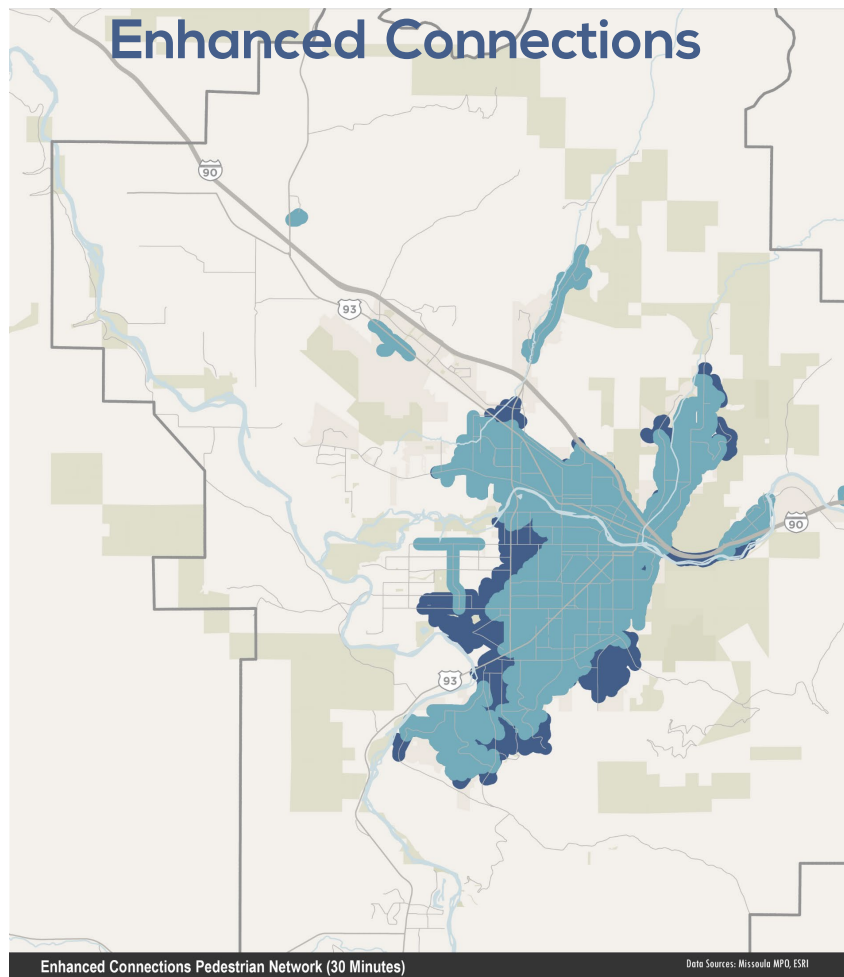
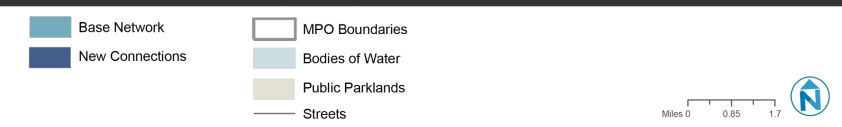
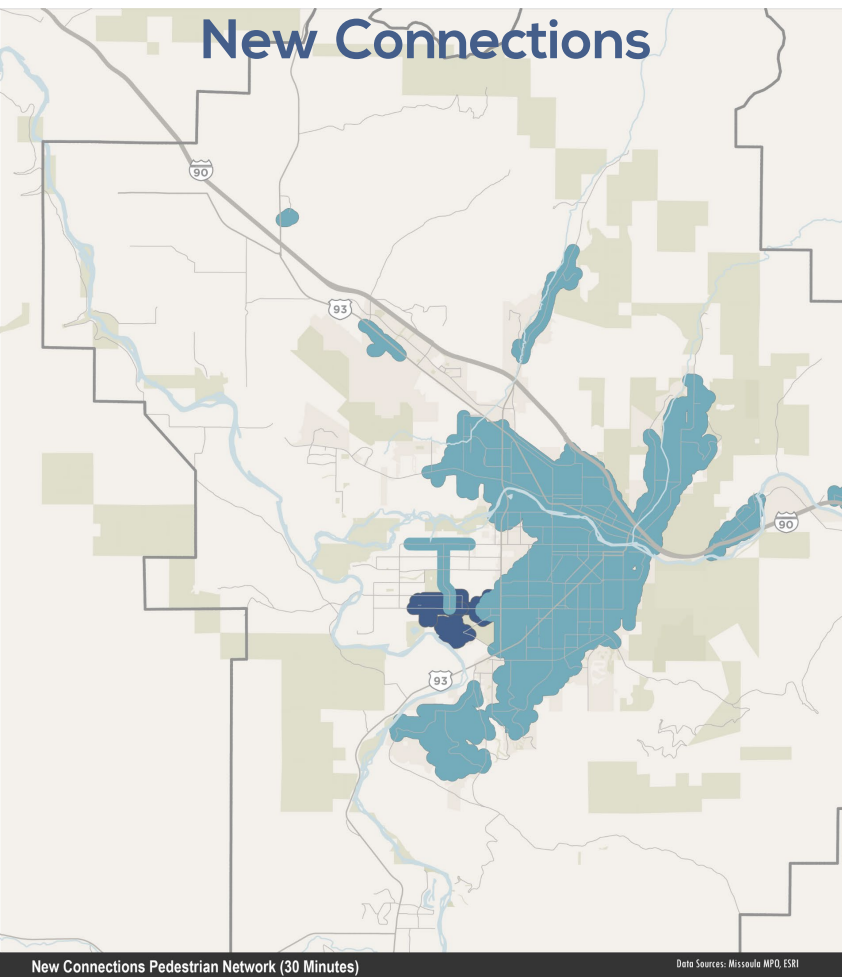
Jobs Accessibility

Change in Jobs Within a 15-Minute Walk in 2050



Jobs Accessibility

Change in Jobs Within a 30-Minute Walk in 2050



Jobs Accessibility

Change in Jobs Within Walksheds in 2050

- Compared to the New Connections network, the Enhanced Connections and Regional Equity networks put many more jobs within a 15- to 30-minute walk

Scenario	Commute Time	Base	New Connections	Change from Base	Enhanced Connections	Change from Base	Regional Equity	Change from Base
Business as Usual	15 min	35,721	35,733	0%	46,685	31%	45,987	29%
	30 min	48,020	48,797	2%	72,551	51%	71,433	49%
Strategic Growth	15 min	36,055	36,067	0%	47,545	32%	48,102	33%
	30 min	48,031	48,808	2%	72,583	51%	72,785	52%

Jobs Accessibility

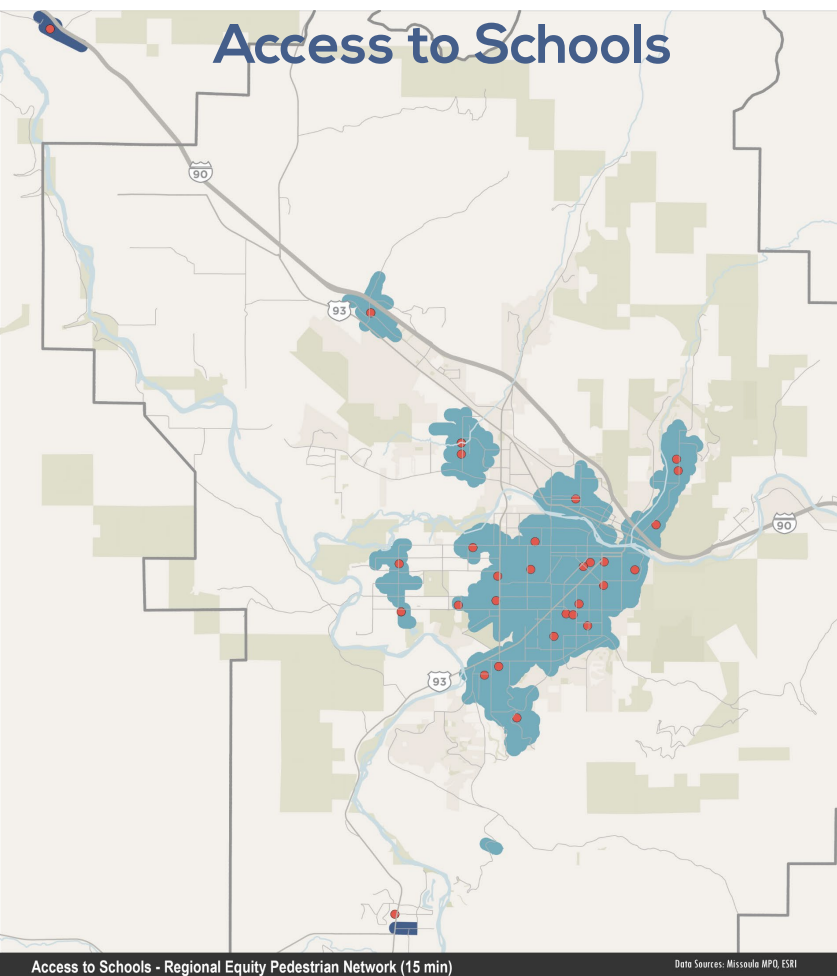
Change in Jobs Within Bikesheds in 2050

- Walksheds provide access to a greater number of jobs than bikesheds due to a more built-out walking network
- Regional Equity provides a somewhat greater increase in bike access to jobs compared to other scenarios

Scenario	Commute Time	Base	New Connections	Change from Base	Enhanced Connections	Change from Base	Regional Equity	Change from Base
Business as Usual	15 min	31,828	31,828	0%	32,428	2%	33,124	4%
	30 min	35,912	35,912	0%	35,956	0%	36,234	1%
Strategic Growth	15 min	32,679	32,679	0%	33,306	2%	33,607	3%
	30 min	36,202	36,202	0%	36,236	0%	36,267	0%

Walking Access to Destinations

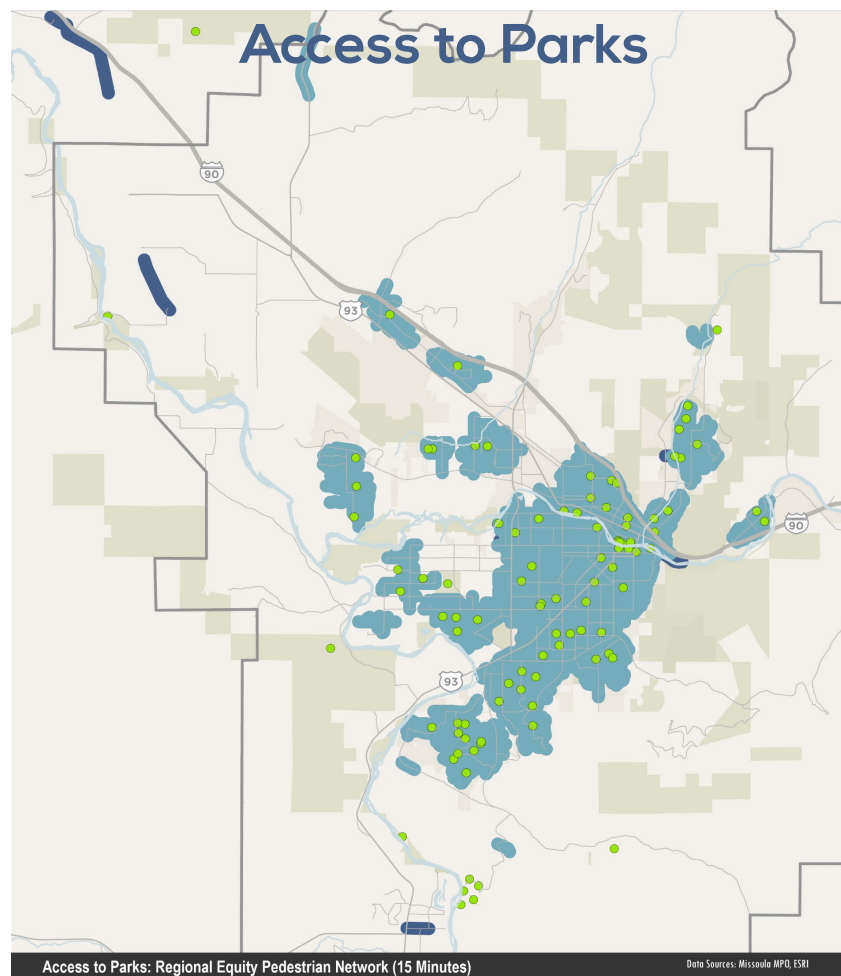
Regional Equity 15-Minute Walksheds



● Schools

□ MPO Boundaries
■ Bodies of Water
■ Public Parklands
— Streets

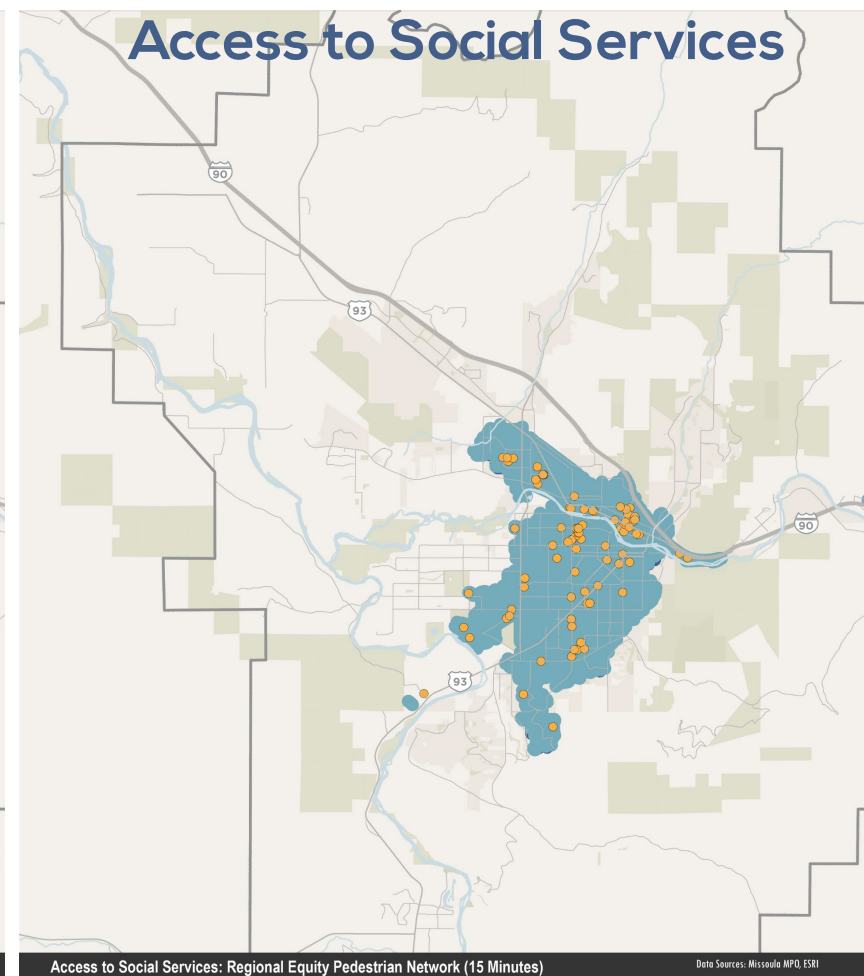
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● Parks

□ MPO Boundaries
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● Social Services

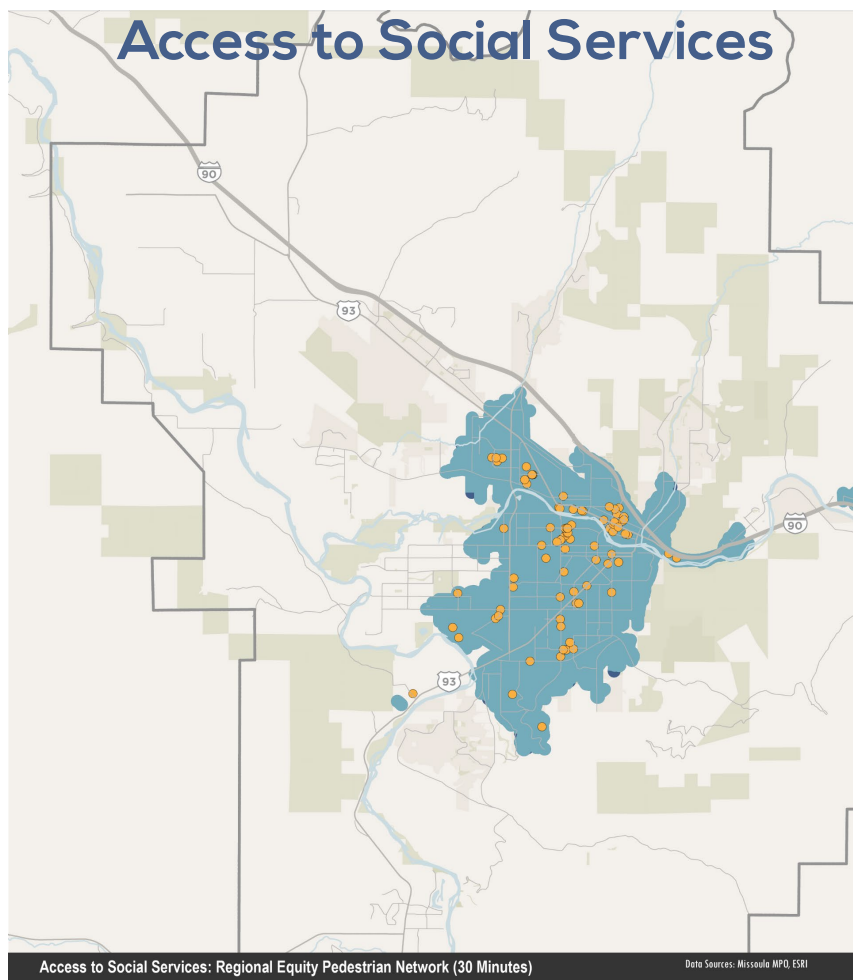
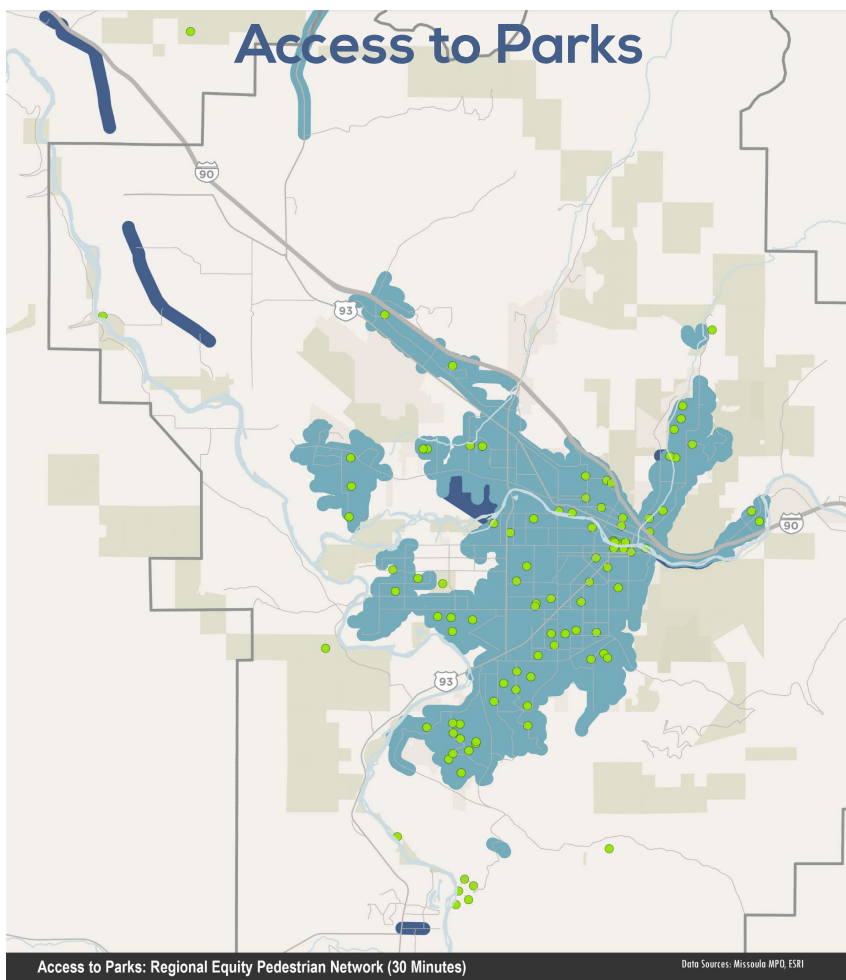
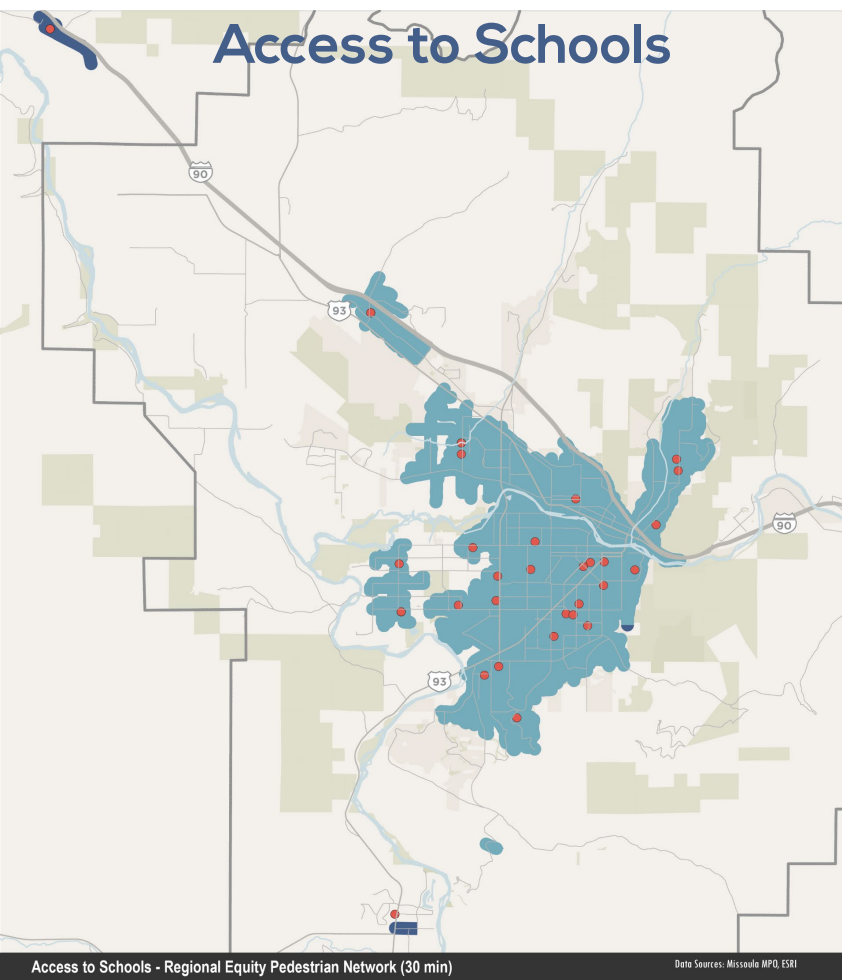
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Walking Access to Destinations

Regional Equity 30-Minute Walksheds

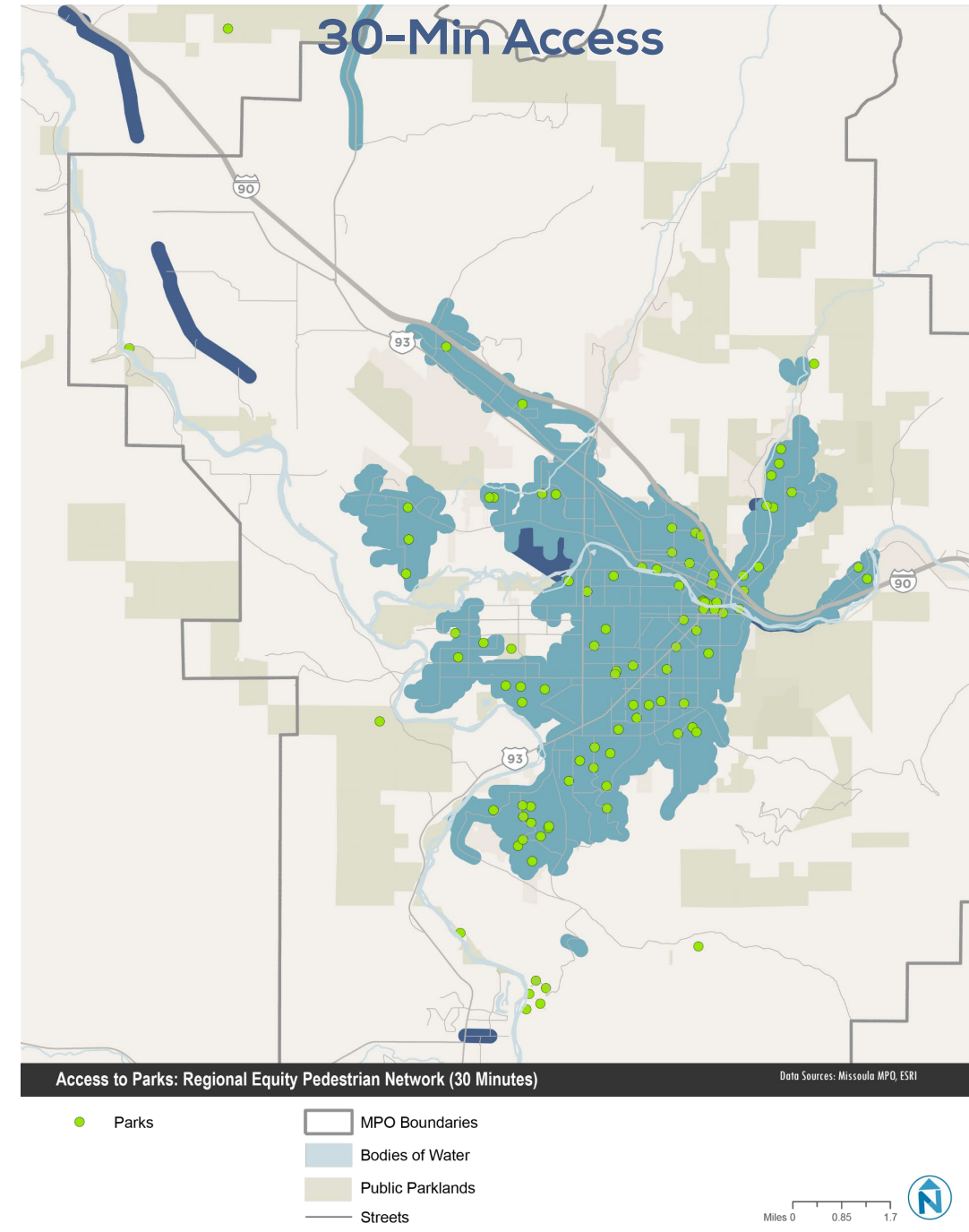


Walking Access to Parks

Change from Base with Regional Equity

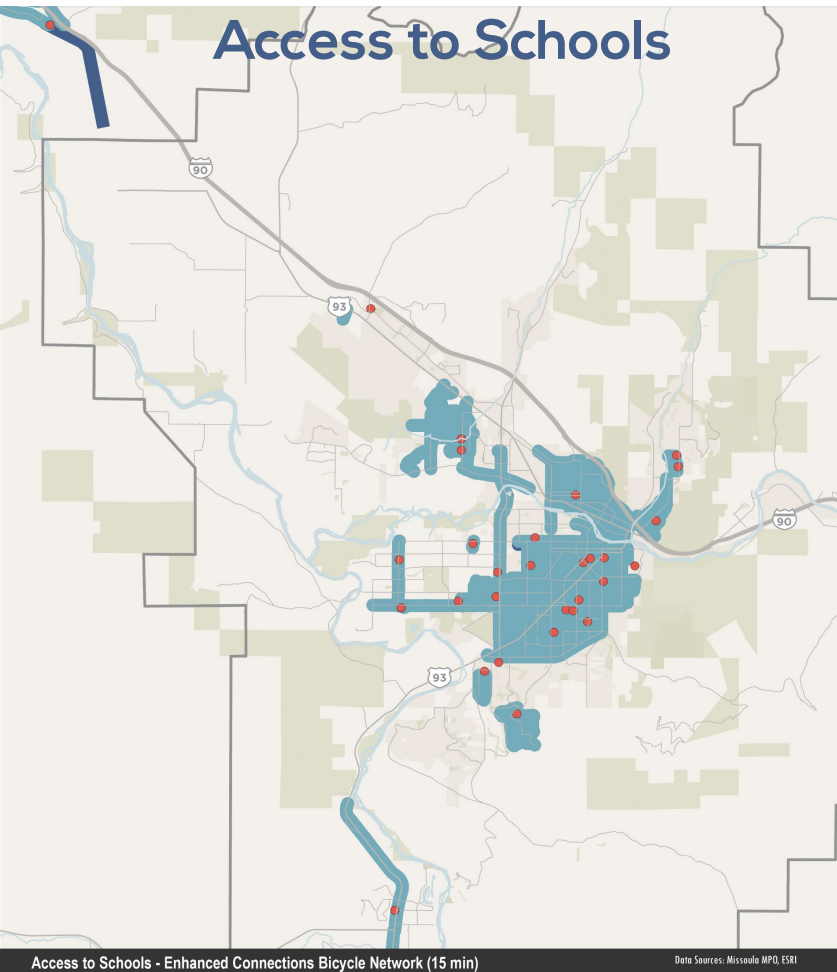
- Significant number of parks means that relative change is small
- Greatest impact for increasing access is the move to Strategic Growth

Scenario	Time	Base	Regional Equity	Change from Base
Business as Usual	15 min	35,334	35,331	n/a
	30 min	39,154	39,222	0.2%
Strategic Growth	15 min	37,388	37,401	n/a
	30 min	40,902	40,932	n/a



Biking Access to Destinations

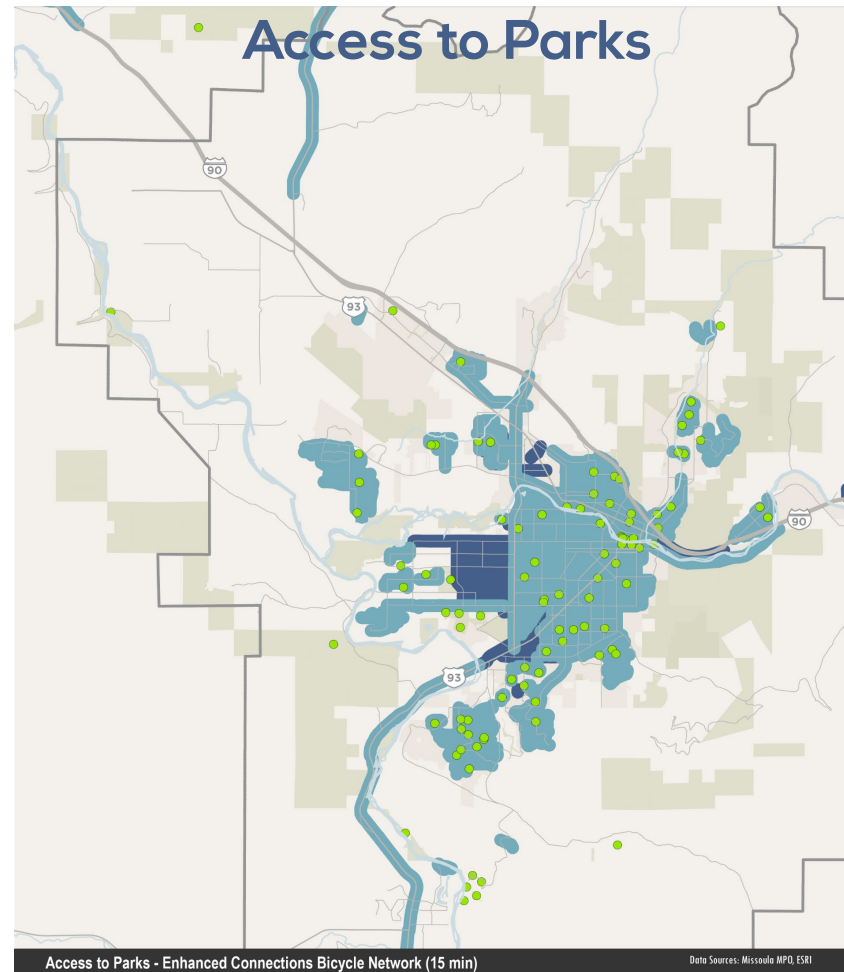
Enhanced Connections 15-Minute Bikesheds



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— Streets

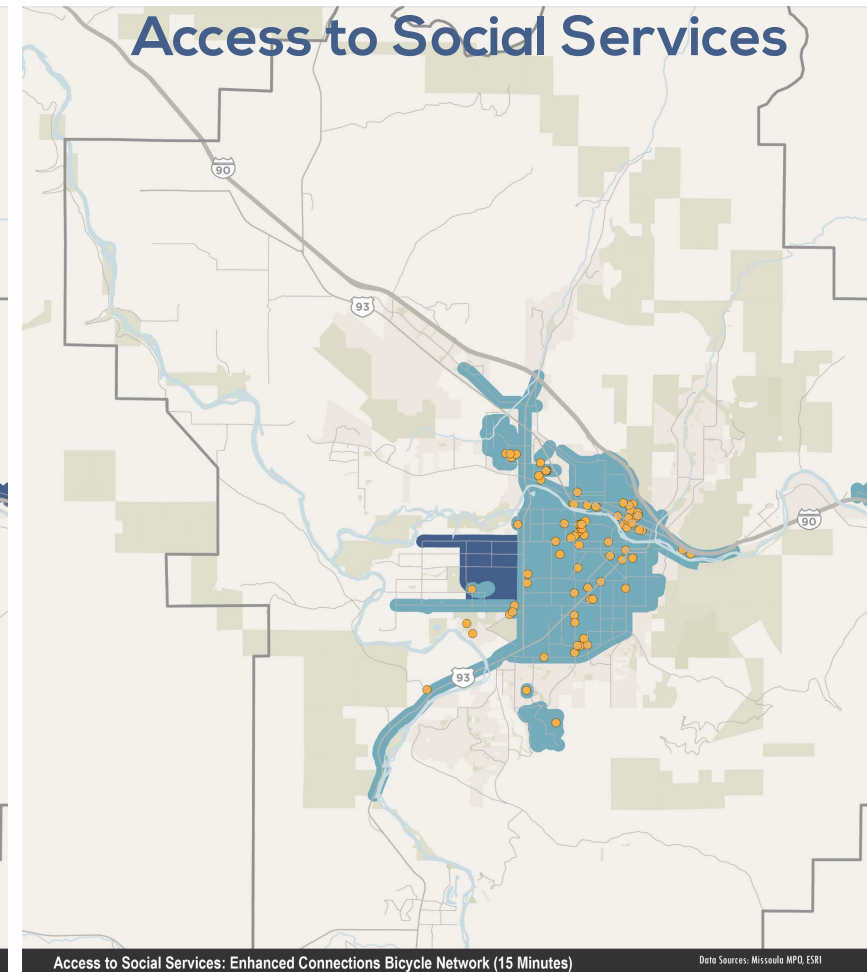
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● Parks

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● Social Services

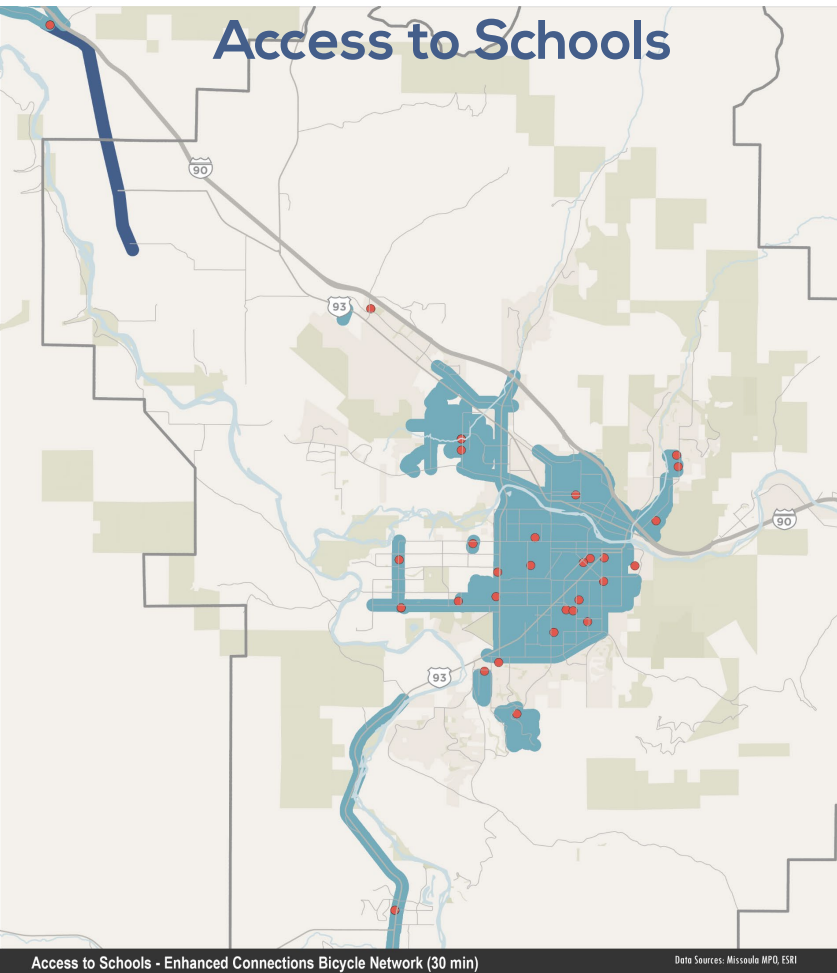
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Biking Access to Destinations

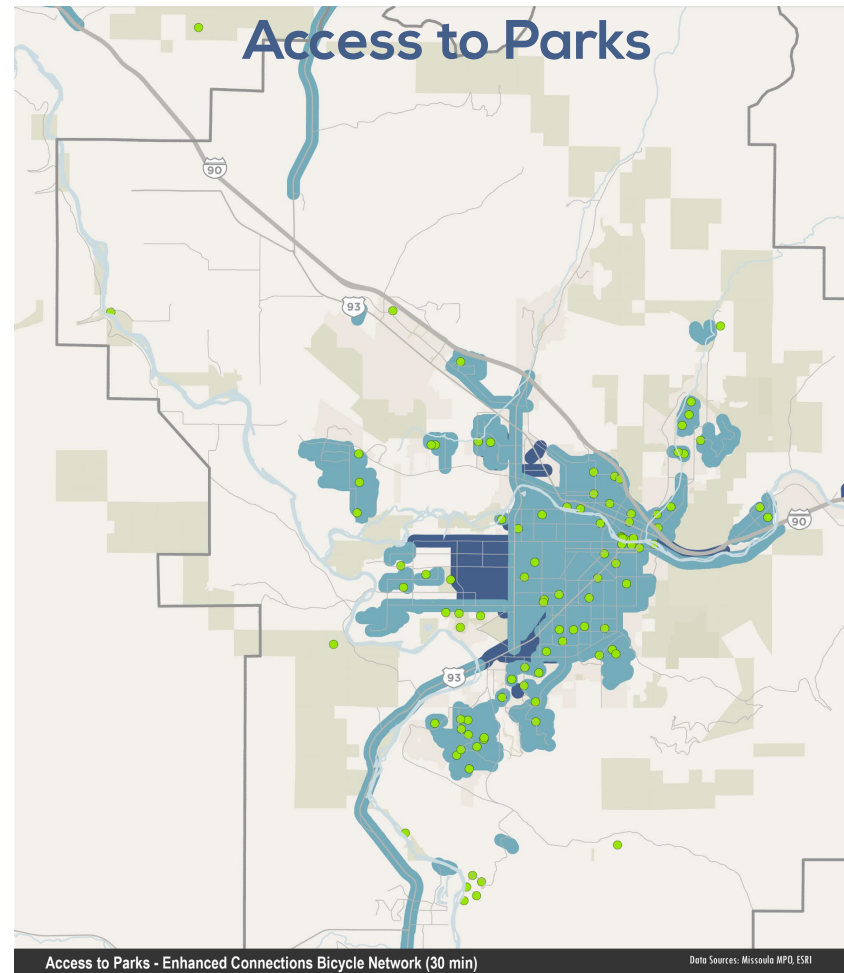
Enhanced Connections 30-Minute Bikesheds



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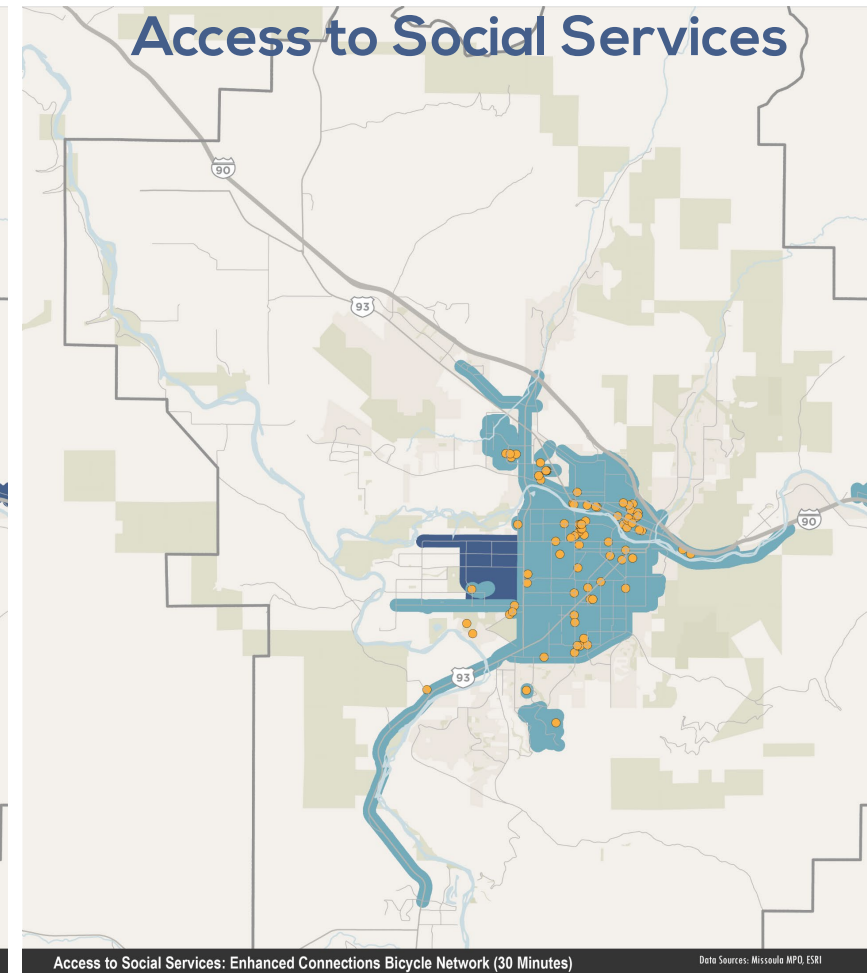
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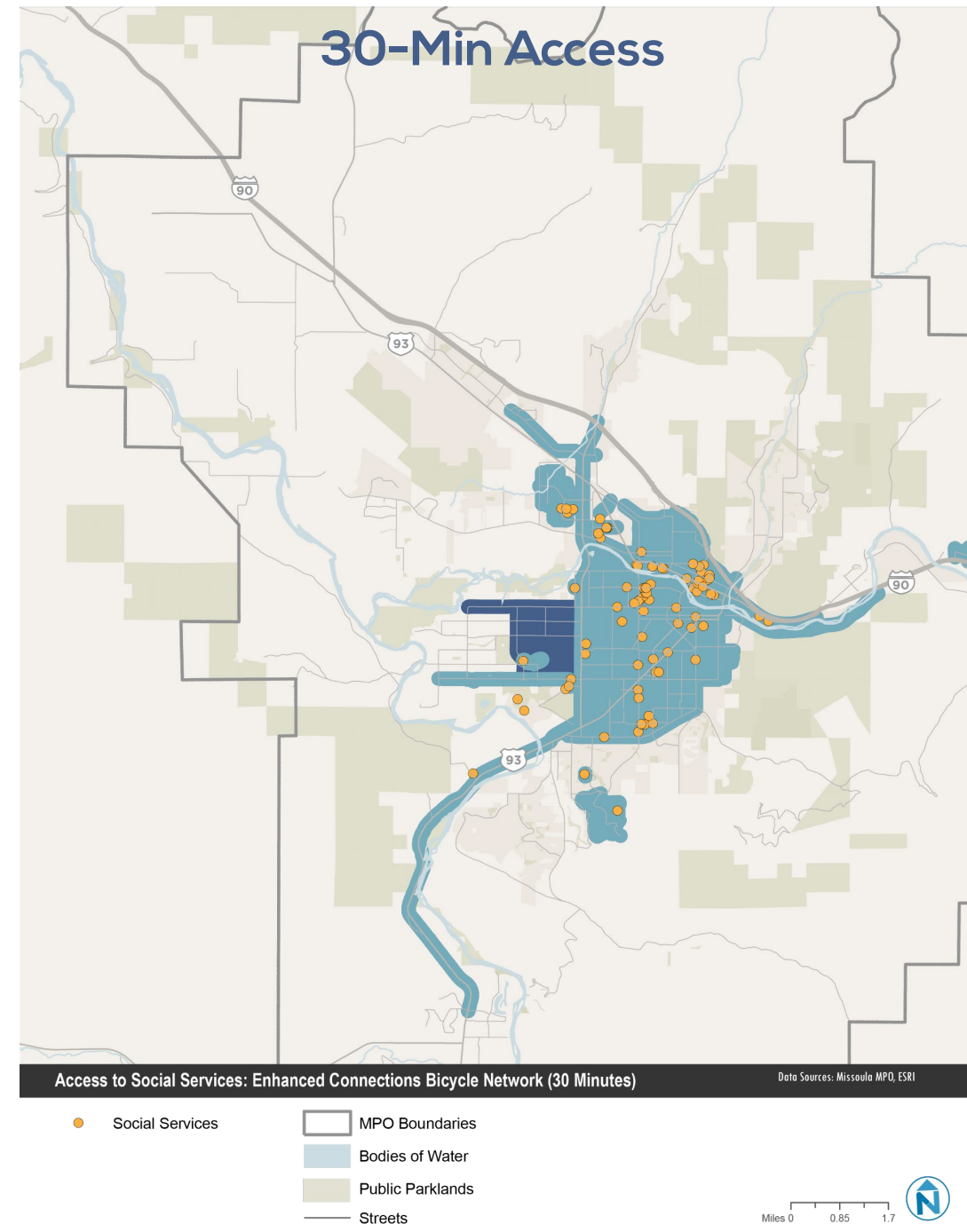


Biking Access to Social Services

Change from Base with Enhanced Connections

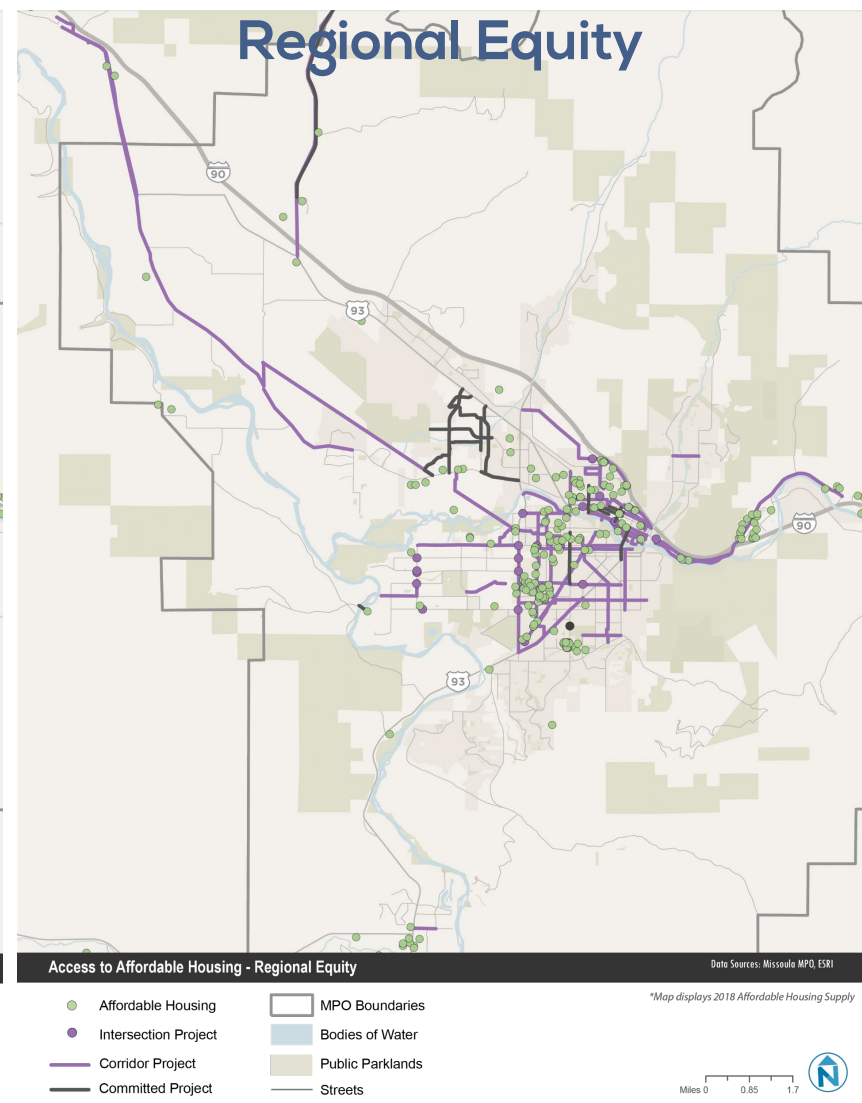
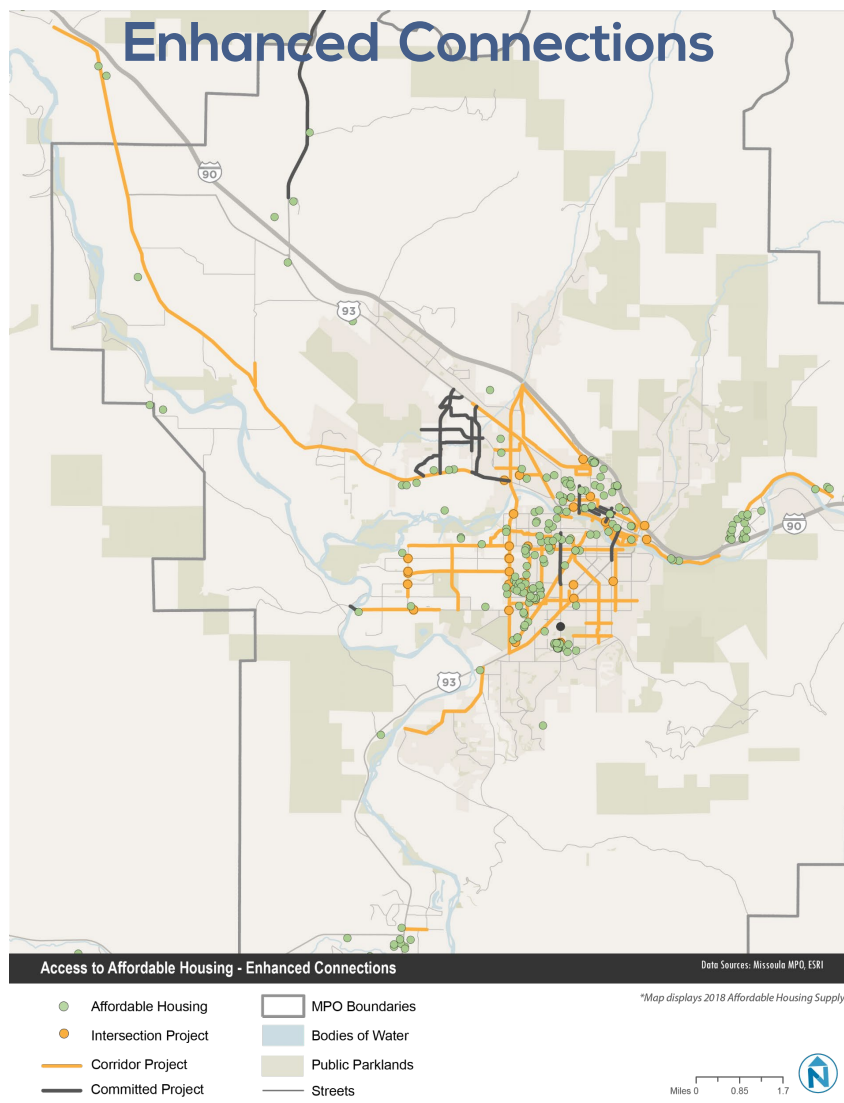
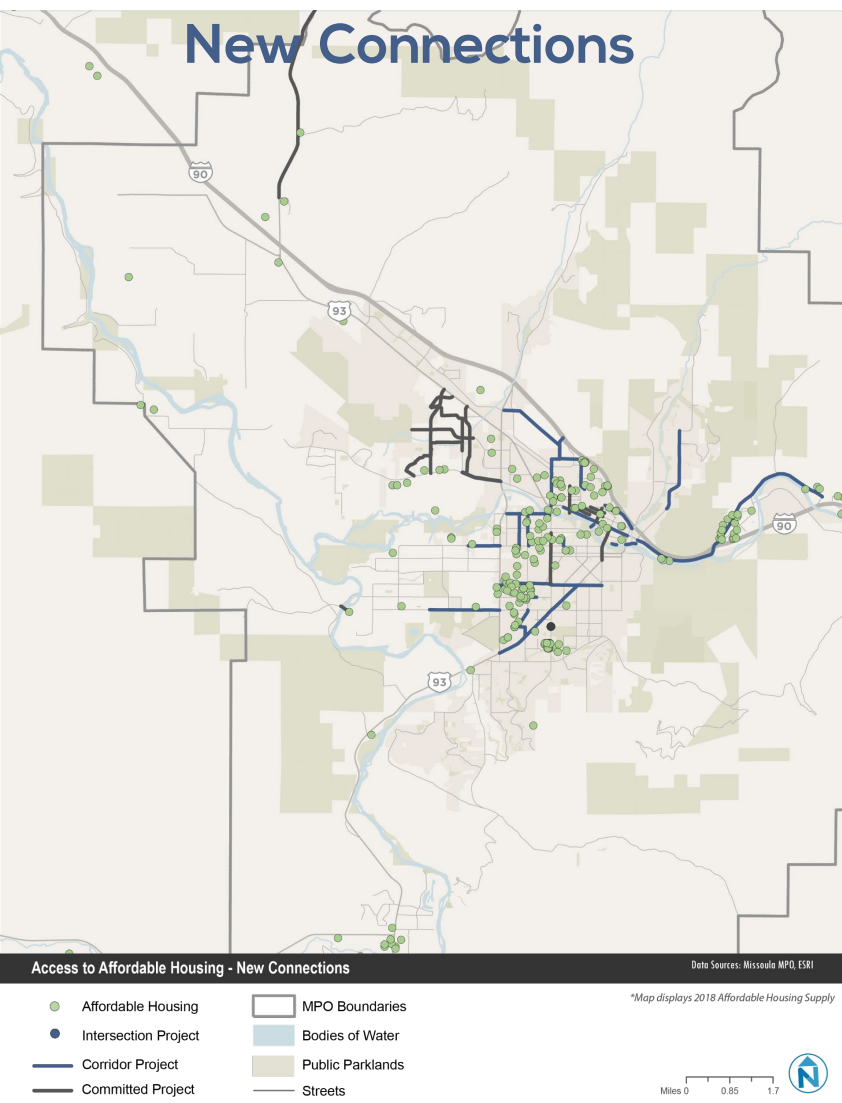
- The concentration of social services means that most are within a 15-min ride
- Enhanced Connections provides access for more households due to a more complete biking network

Scenario	Time	Base	Enhanced Connections	Change from Base
Business as Usual	15 min	19,338	19,663	1.7%
	30 min	24,428	24,730	1.2%
Strategic Growth	15 min	21,331	21,389	0.3%
	30 min	25,948	26,280	1.3%



Affordability

Connections to 2018 Affordable Housing



Affordability

Connections to 2018 Affordable Housing

- Regional Equity provides the greatest accessibility to affordable housing opportunities
- Affordable housing locations served are 71% higher in Regional Equity than New Connections and 17% higher than Enhanced Connections

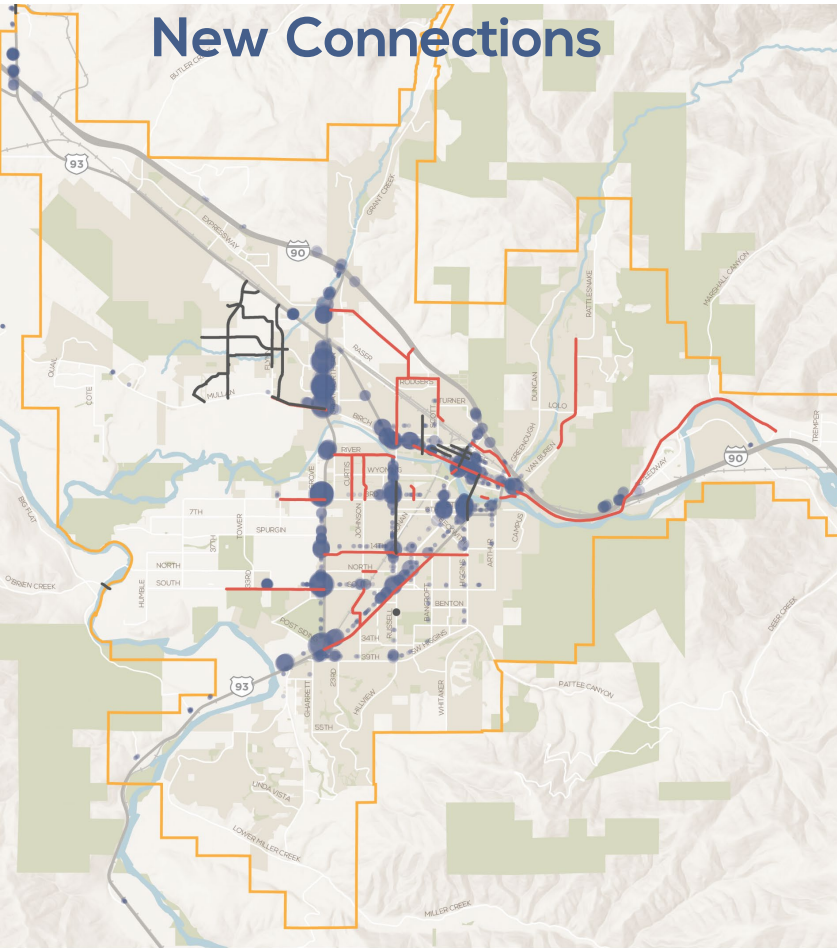
Housing Type	New Connections	Enhanced Connections	Regional Equity
Affordable Housing*	27	39	46
Mobile Home Courts	50	74	82
Total Sites	77	113	128

*Housing Developments that receive LIHTC, HUD, or Section 8 funding

Safety

Bicycle and Pedestrian Collision Hotspots

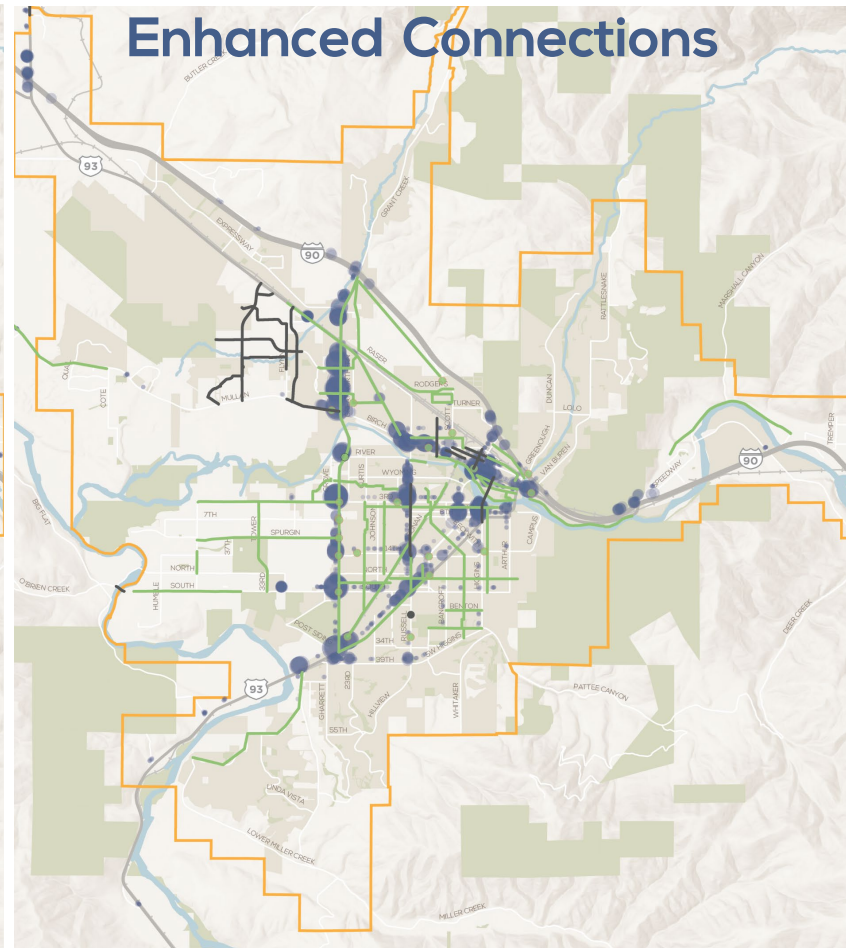
New Connections



Bicycle and Pedestrian Collisions and New Connections Scenario

Data Sources: Missoula MPO, ESRI, CTSP 2007 - 2018 Crash Data

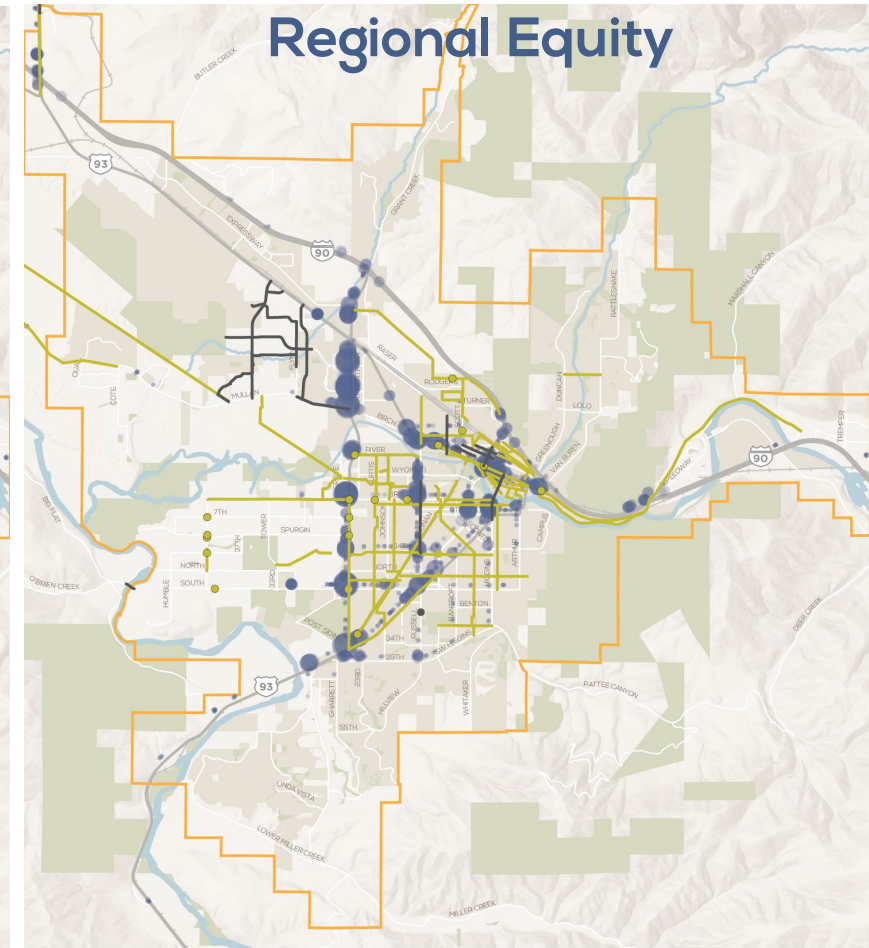
Enhanced Connections



Bicycle and Pedestrian Collisions and Enhanced Connections Scenario

Data Sources: Missoula MPO, ESRI, CTSP 2007 - 2018 Crash Data

Regional Equity



Bicycle and Pedestrian Collisions and Regional Equity Scenario

Data Sources: Missoula MPO, ESRI, CTSP 2007 - 2018 Crash Data

Good Repair

Miles of Roadway Potentially Improved

- Complete streets and active transportation projects that include repaving have the potential to reduce regional roadway maintenance deficiencies
- Enhanced Connections includes the most projects with the potential to improve pavement condition on non-state routes

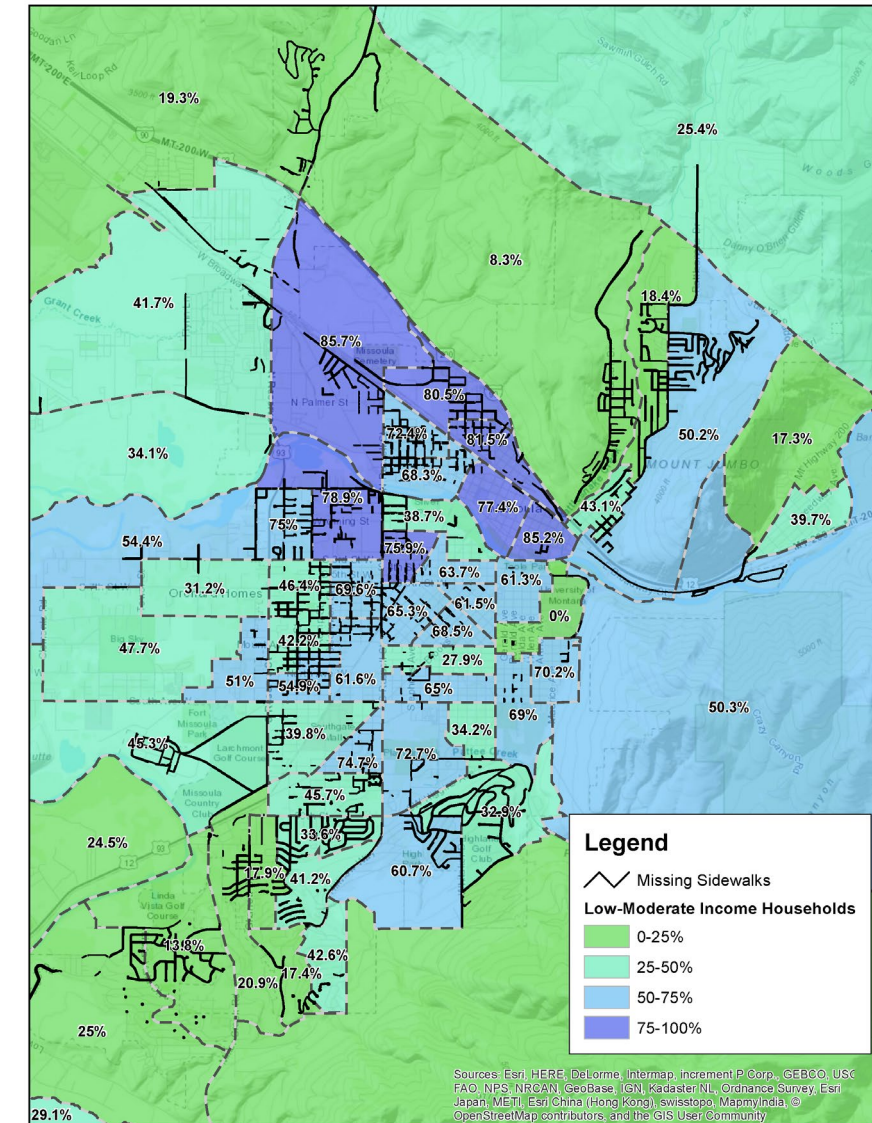
Pavement Condition	Committed Projects	New Connections	Enhanced Connections	Regional Equity
Poor	2.2	9.6	9.9	8.3
Fair	0.8	7.4	10.8	6.2
Total (miles)	3.0	17.0	20.7	14.5

Additional Metrics in Development

Post-Processing and Mapping

- Mode share
- Transit and auto accessibility
- Equity focus areas
- Future affordability
- Ability to support growth

Using demographics similar to Pedestrian Facilities Plan to refine equity analysis



CAC Discussion

Your Initial Impressions

- Do the scenarios perform in the ways you might expect? What surprises you?
- Which of the metrics or analyses did you find the most helpful?
- Are there additional metrics you feel are important?



Photo: Missoulian

Engaging the Community

Fall Engagement Planning

Focus on Scenario Evaluation Results

- Online gallery and survey (missoulamopo.com)
- Video overview
- Neighborhood council drop-in sessions
 - City/County
- Virtual community meetings
 - Lunch hours, evenings
- Partner newsletters
- Social and traditional media
 - Facebook: Missoula Transportation Planning
- Postage-paid mailer with survey
- Surveys and drop boxes at key service locations
 - Food Bank, All Nations Health Center, Partnership Health
- Posters on Mountain Line buses and in displays in Downtown Transfer Center
- Signs at trailheads and local businesses



Community Meetings

Neighborhood-Focused Discussions

- Weekly meetings with groups of neighborhood councils
- Focus on neighborhood specific concerns
- Create multiple opportunities for informal discussions on the plan scenarios and outcomes
- Include meetings with County Community Councils



Virtual discussions to explore key topics

Getting to Mid-November

Preliminary Calendar of Events

Date	Key Action
11/16	Launch webpage
11/18	Distribute press release and begin social media campaign
11/23	Begin neighborhood meetings and deliver handouts, signs, and displays
11/30	Coordinate with community partners and Parade of Lights
12/4	Host virtual open house
12/7	Rotate displays
12/18	Close outreach phase and collect final materials

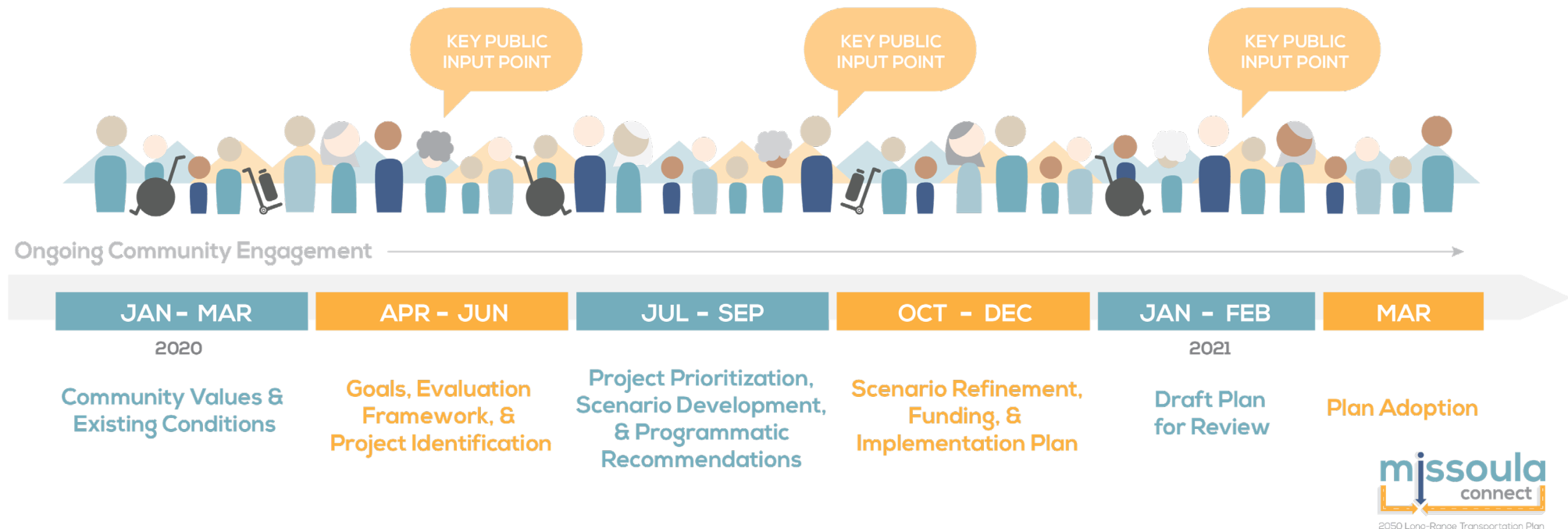
Next Steps

Upcoming Tasks

CAC Meeting #5
in January 2021

Priorities for November

- Finalize scenario analysis and summarize findings
- Prepare for mid-November launch of engagement
- Focus on programs and policies to support scenarios



Thank you!

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missoulampo.com/long-range-transportation-plan