



2050 Long-Range Transportation Plan

**Technical Advisory Committee**  
**September 18, 2020**



# Recent Work

## A busy July and August

- Finalized goals and desired outcomes
- Revised and finalized evaluation framework
- Engaged with the community and stakeholders through briefings and call for projects
- Screened and scored draft project list
- Developed approach to scenario planning

### Missoula Connect

## Final Goals & Desired Outcomes



#### Improve safety and promote health to enhance quality of life

- Eliminate traffic-related fatalities and serious injuries
- Improve safety for people walking and biking
- Enhance active transportation and transit linkages to lower-income neighborhoods
- Increase physical activity and human connections by making walking and biking convenient modes of travel
- Improve access to recreational facilities and trails to support healthy lifestyles



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

- Improve climate resilience and advance toward carbon neutrality
- Reduce transportation-related air emissions
- Minimize sediment, nutrients, and litter entering surface water
- Expand the urban canopy and green stormwater infrastructure
- Protect and enhance natural, cultural, and historic resources, including agricultural lands
- Create adaptable and resilient infrastructure to respond to changing needs



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

- Build complete streets and increase access to multimodal options
- Increase street, trail/greenway, and sidewalk network connectivity for all ages and abilities
- Optimize the efficiency and accessibility of the transportation system
- Reduce person hours of delay for people driving and improve freight movement
- Improve access to high-quality and high-frequency transit stops and routes



#### Connect and strengthen communities to create a more equitable region

- Increase affordability and reduce overall household transportation costs
- Develop an integrated mobility system that connects destinations with sustainable travel options
- Integrate land use and transportation planning to support infill development and create complete neighborhoods
- Improve access to schools, jobs, parks, essential services, affordable and senior housing, and basic life needs
- Engage with and invest in historically disadvantaged areas and in neighborhoods that have been adversely impacted by transportation decisions



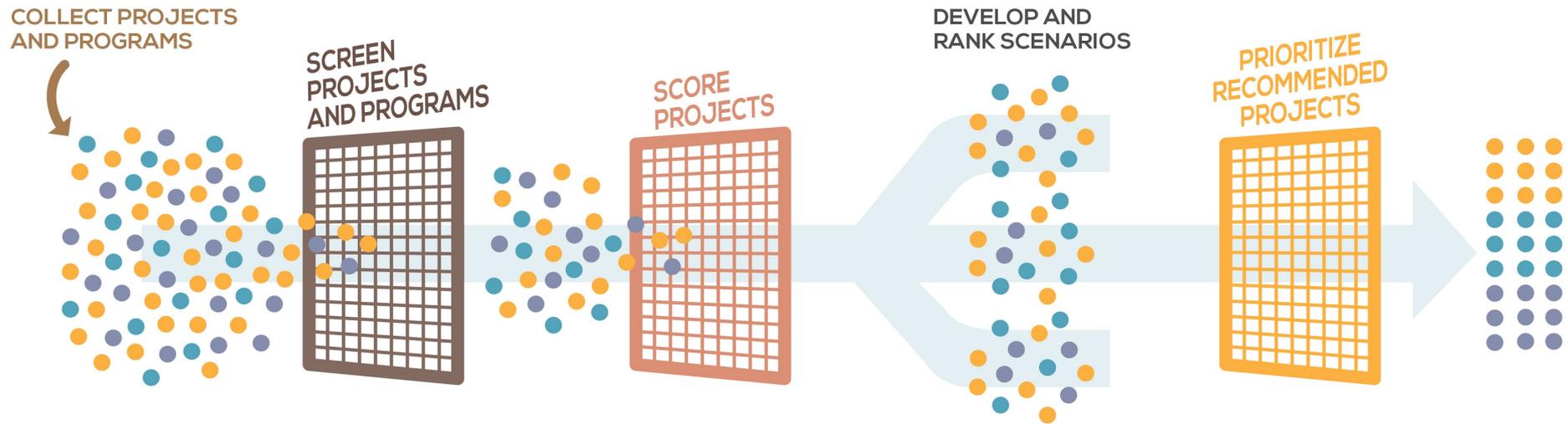
#### Maintain assets and invest strategically to boost economic vitality

- Bring existing infrastructure and transit assets into a state of good repair to support the regional economy, local industry, and goods movement
- Balance cost-effective, implementable projects with high-impact projects
- Plan for a transportation system that makes the best use of public financial resources
- Provide a network that targets growth inward to support existing centers and mixed-use development
- Support access to businesses and commercial and industrial centers to enhance economic recovery and growth
- Explore more equitable and sustainable funding sources for transportation projects and programs

# Preliminary Scoring: Draft LRTP Project List

# Putting the Framework to Work

## Initial results of Steps 1, 2, and 3



# Step 1: Collect Projects & Programs

Generated 200+ project ideas



2050 Long-Range Transportation Plan

## INSTRUCTIONS

- 1 Zoom to your area of interest
- 2 Click **DRAW A LINE** or **DRAW A POINT** and choose a category
- 3 Draw as many items as you'd like and add a description to each
- 4 Click on other submitted ideas to add comments

## POINT CATEGORIES

- Walking & Biking
- Safety
- Transportation Options
- Maintenance
- Complete Streets
- Transit Stop, Corridor, or Service

## LINE CATEGORIES

- Walking & Biking
- Safety
- Transportation Options
- Maintenance
- Complete Streets
- Transit Stop, Corridor, or Service

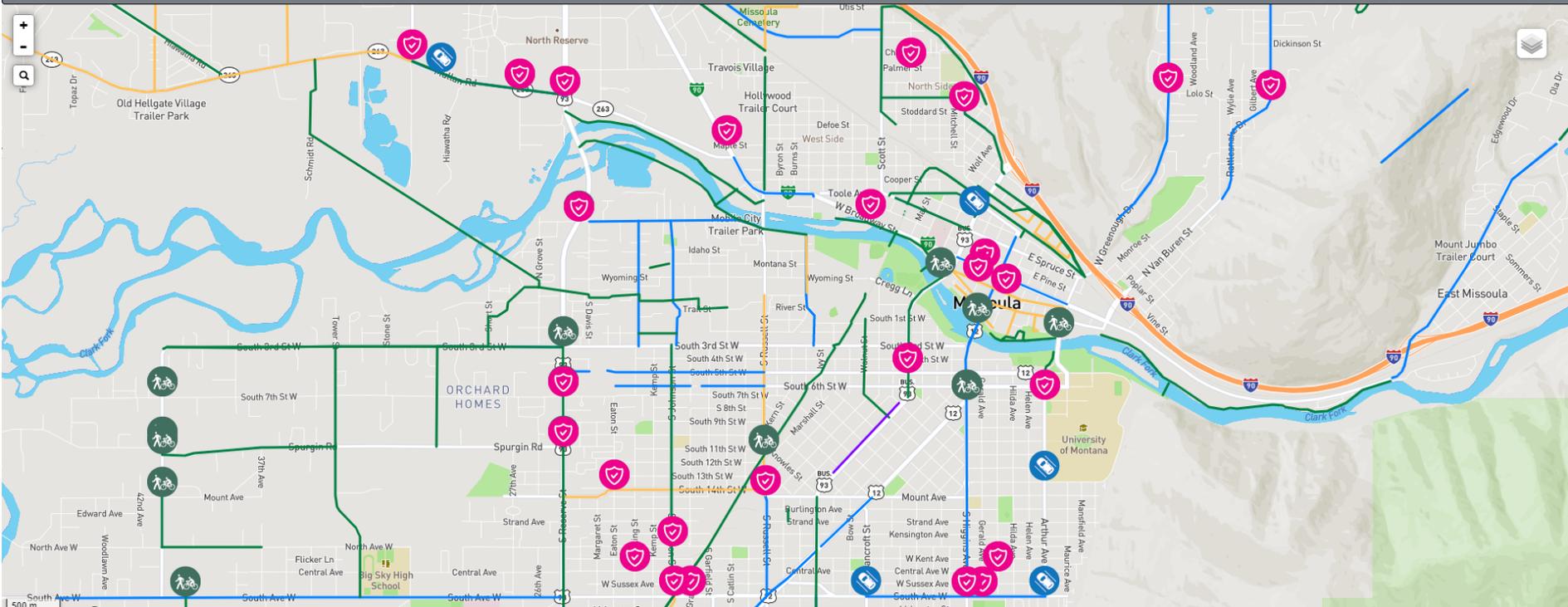
Missoula LRTP Update Call for Projects

About & Help

DRAW A LINE

DRAW A POINT

Share 0 Guest



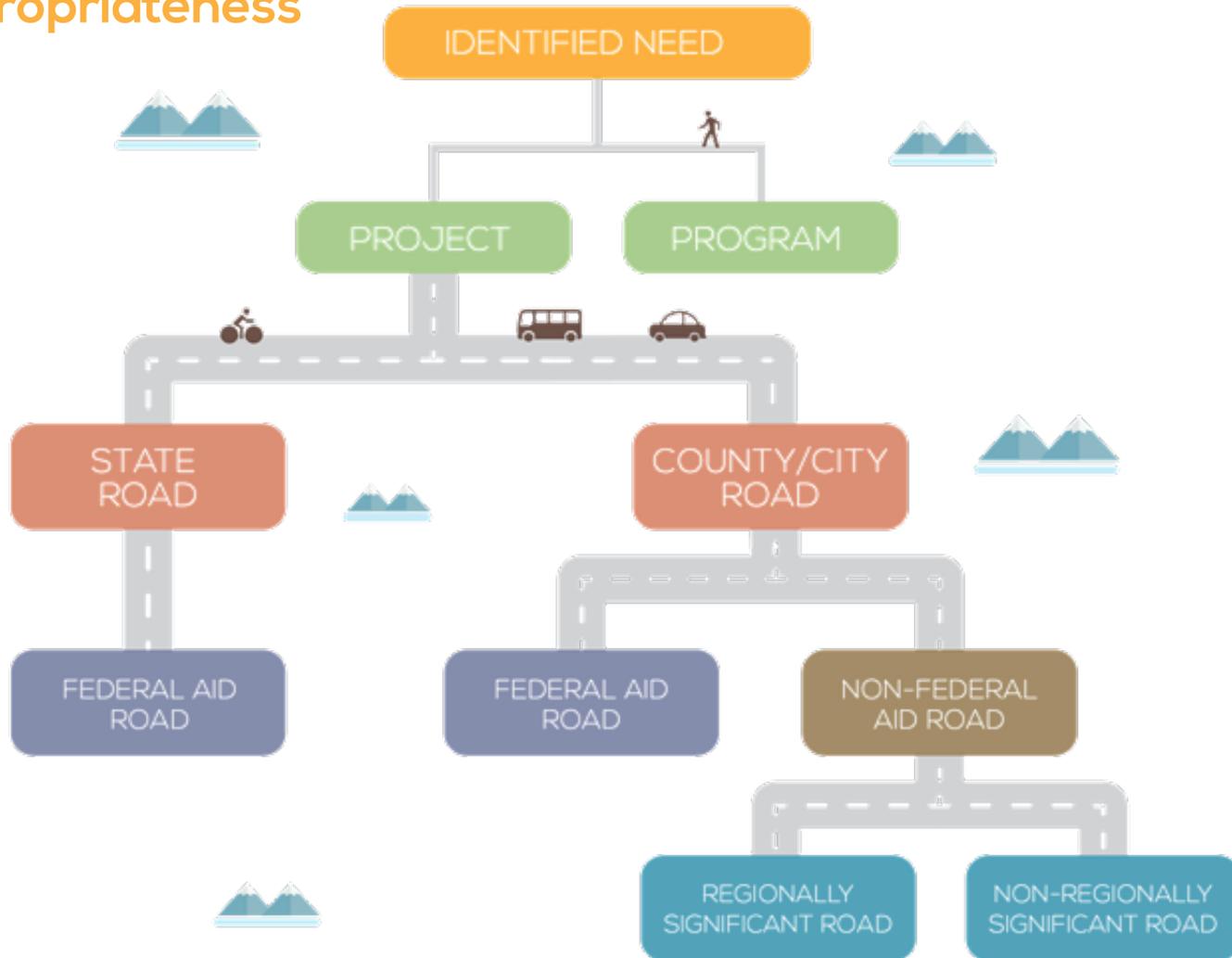
2050 Long-Range Transportation Plan



METROPOLITAN PLANNING ORGANIZATION

# Step 2: Screen Projects & Programs

L RTP appropriateness



# Step 2: Screen Projects & Programs

## LRTP appropriateness

- Sorted for policies and programs
- Reviewed projects for suitability and duplication
- Assessed and updated unbuilt projects from 2016 LRTP
- Added projects from newer plans
- Consolidated or separated individual projects

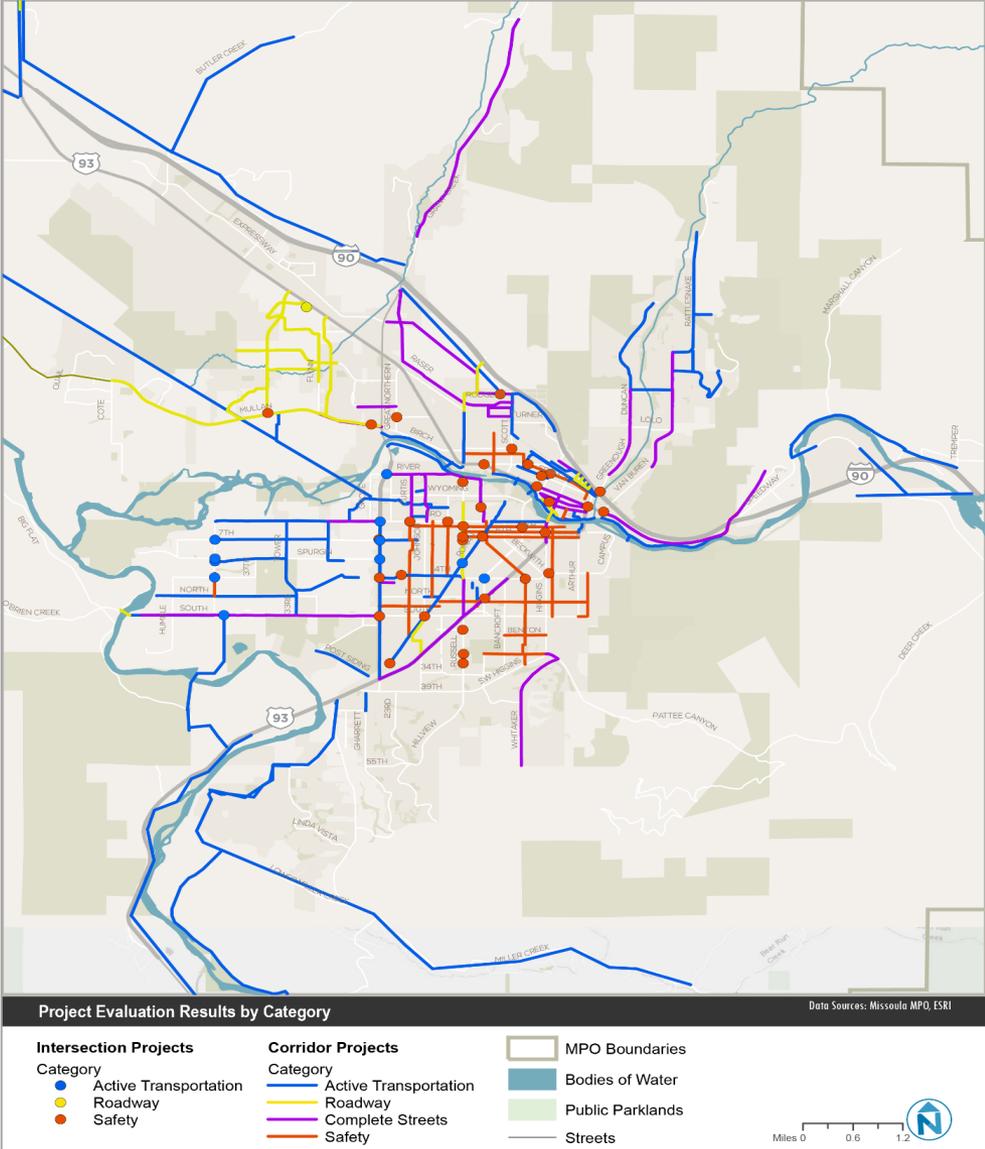
Table 24. Committed and Recommended non-motorized projects

2016 Status	ID	Score	PROJECT	Agency	Funding Source
Committed Projects	94	#N/A	Bitterroot Branch Trail Improved Crossing at Russell	City	STPU
	100	#N/A	Bitterroot Trail: Improve at-grade trail crossings to increase visibility/ safety for bicyclists and pedestrians	City	TA
	99	93.5	Complete Bitterroot Branch Trail between North and Livingston - Include crossing improvements at Johnson & South	City	MRA
Recommended Projects	198	118.5	Bitterroot Branch Trail - Pine to Spruce	City	Local
	175	112.5	Complete North Bank Riverfront Trail from Eastgate to Easy Street	City	Local, MRA
	402	110.5	City-wide Bicycle Greenways	City	Local
	184	104.5	Convert Orange St from 1st St to Sixth St into a complete street and increase bicycle and pedestrian access	City	Local
	359	98	Bike Facility Improvements -- W. Spruce from Orange to Railroad Tracks	City	Local
	181	90	Reserve Street: Develop Buffered Bike Lanes to Allow for Two Foot Painted Divider - US 93 to S. 3rd Street	City	Local
	360	90	5th/ 6th Street improvements for bike/ pedestrian access and safety	City	Local
	534	90	Bike/ Ped Bridge from Riverfront Triangle to McCormick Park	City	Local, MRA
	399	88	Add Bicycle Lanes to N Russell St from Broadway north to the train tracks	City	Local
	488	88	Bike lanes on Toole Ave (Northside Pedestrian Bridge to Spruce)	City	Local
	188	86	Northbank Riverfront Trails per West Broadway Corridor Plan	City	Local, MRA
	338	83.5	Emma Dickinson Learning Center-Council Grove Apartments bike-ped connection	City	Local
	361	83.5	Highway 200 Multi-use path - Sha-Ron to Tamarack	County	STPU
	365	83	Bike Lanes - N. 5th St., Worden, Cooley	City	Local
	433	83	Bicycle Lane: Paxson St from the Southgate Mall to 39th St	City	Local
	189	82.5	Northbank Riverfront Trail - Russell to Reserve	City	Local
	388	80.5	Bike lane on Johnsons from South to 3rd st	City	Local
	382	78.5	Reconfigure N. 2nd St to complete street	City	Local
	183	78	Stephens Avenue: Add bike lanes from Brooks to South	City	Local
	187	73.5	Construct Reserve Bike/ Ped Crossings at Spurgin, 7th, and River Rd.	City	Local
	353	73.5	North Avenue Bike Path: Clements - 37th	County	STPU
	179	71	Develop Whitaker Bike and Pedestrian Facilities to/ from SW Higgins Avenue	City	Local
	367	71	Trail - Scott St. to Interstate Greenway	City	Local, MRA
	177	70	Install Sidewalk in the South Hills (Gharrett, 23rd, Hillview Way, 55th, Country Club)	City	Local
	369	68.5	Shared-use path connection - Strand to Burlington	City	Local, MRA
	536	68.5	Post Siding Road shared-use path connection	City	Local
	431	68	Bicycle Lane: Beckwith/ Walnut from Stephens to 1st St	City	Local
	349	66	Bitterroot Branch Trail River Crossing	City	Local
	355	66	Clements & Mount	County	STPU
	475	66	Mullan Road Trail - Flynn Lane to Reserve Street	City	Local
	518	66	Milwaukee Trail connection to Hawthorne school	City/ County	Local
	519	66	Bike/ Ped bridge - Missoula College to Kim Williams trail	City	Local, MRA
	466	65.5	Intersection of Higgins and Brooks Bicycle Slip Lane	City/ MDT	Local

# Result: Draft Project List

All modes and types

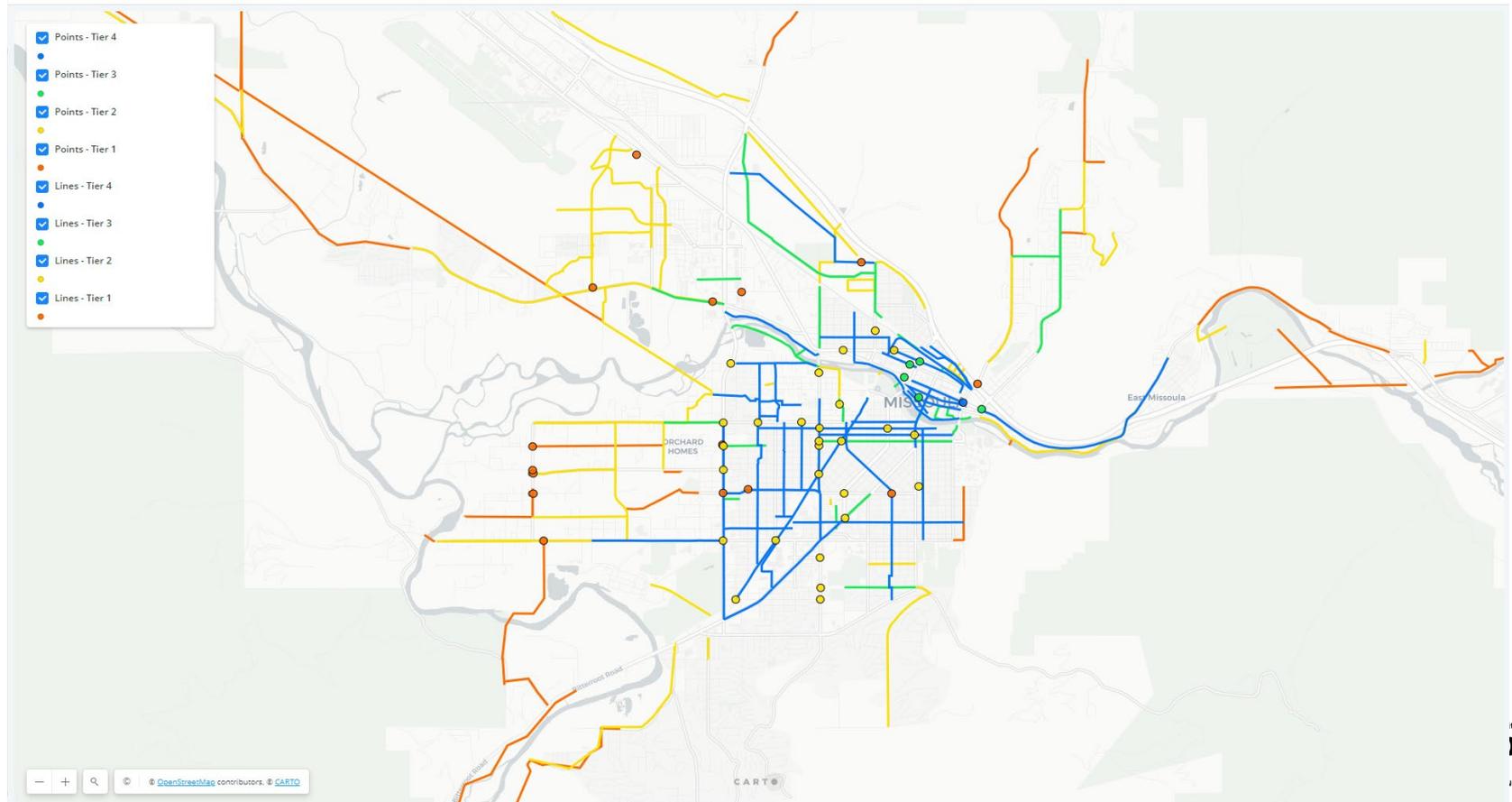
1 + 2 = 183



# Step 3: Score Projects

## Quantitative and GIS-based tiering

- Use geographic criteria tied to desired outcomes
- Get to tiers rather than priority projects



# Result: Tiered Project List

## Unweighted scoring

Project ID	Project Title	Extent To	Extent From	Project Description	Category	Source	Total Score	Total Score Tier
152	Front/Main 2-Way Conversion and Multimodal Improvements	Madison St	Orange St	Convert Front St and Main St to 2-way streets and include multimodal improvements	Complete Streets	Project List 2016	29	4
14	Higgins Ave Multimodal Improvements	Broadway St	Brooks St	Project (from Downtown Plan) could include realignment of parking, protected cycletrack or standard bike lane, intersection improvements, enhanced curbing at intersections, and left-hand turn pockets at intersections	Complete Streets	Project List 2016	29	4
383	Northside Bikeway	RUX Trail	Toole Ave/Bitterroot Trail	Protected bikeway along the northside of the railway, connecting with the northshore Bitterroot Trail extension to the west and Van Buren foot bridge	Active Transportation	Project List 2016	28	4
701	Sherwood Neighborhood Greenway	Russell St	Milton St	Greenway connection	Safety	Project List 2016	28	4
706	4th St Neighborhood Greenway	Schilling St	Toole Park	Greenway connection	Safety	Project List 2016	27	4
469	Broadway Complete Street	Madison St	Toole Ave	Realign roadway section to 4 travel lanes, including bike lanes or protected cycle tracks, improved intersections, enhanced curbing, streetlighting, and landscaping	Complete Streets	Project List 2016	27	4
703	Gerald Neighborhood Greenway	4th St	South Ave W	Greenway connection	Safety	Project List 2016	27	4
382	N 2nd St Complete Street	Madison St	A St	Add sidewalks, bike lanes, and streetscaping	Complete Streets	Project List 2016	27	4
1290194	3rd St Bike Lane Extension	Ash St	Higgins Ave	Continue bike lanes east from where they currently end (at railroad tracks) to Higgins	Active Transportation	Wikimap	26	4
708	Burton Neighborhood Greenway	Stoddard St	Riverfront Trail	Greenway connection	Safety	Project List 2016	26	4
394	E Broadway St/Hwy 200 Complete Street	Staple St	Van Buren St	Reconstruction of E Broadway St and Hwy 200 from Van Buren St to Staple St to include multimodal transportation improvements, curb/gutter, safe crossings, and access management through East Missoula core	Complete Streets	Project List 2016	26	4
709	Kent/Central Neighborhood Greenway	Maurice Ave	Reserve St	Greenway connection	Safety	Project List 2016	26	4
181	Reserve St Buffered Bike Lanes	US Hwy 93	S 3rd St		Active Transportation	Project List 2016	26	4

# TAC Discussion

## Initial thoughts and feedback

- What surprises you about the scoring results?
- Does anything feel "off"?
- Are any projects missing?
- What weight do you recommend for each goal?

Goal	Weight	Rationale
Safety and health		
Sustainability		
Mobility choices		
Equity and affordability		
Strategic investment		

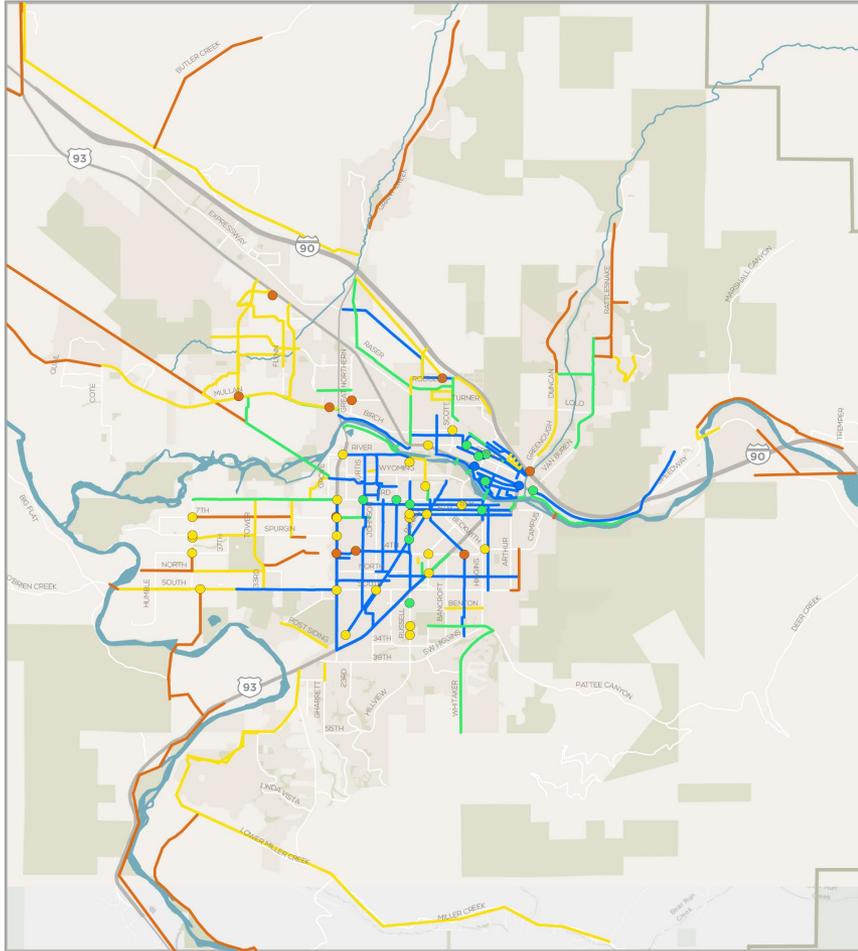
# Opportunity: Weighting Goals

Reflect community priorities

Project ID	Project Title	Extent To	Extent From	Project Description	Category	Source	Equal Weighting		Safety & Equity x2		Sustainability & Equity x2	
							Total Score	Total Score Tier	Weighted Score	Weighted Score Tier	Weighted Score	Weighted Score Tier
3007	14th St and Eaton St Intersection Improvements	14th St	Eaton St	Install roundabout	Safety	Wikimap	16	1	23	1	23	2
3008	Catlin St and 3rd St Intersection Improvements	Catlin St	3rd St	Signalized pedestrian/bicycle crossing to connect to Milwaukee Trail	Safety	Wikimap	20	2	32	3	29	3
3009	Russell St and 6th St Intersection Improvements	S 6th St	Russell St	Consider signalized pedestrian/bicycle crossing to connect to Bitterroot Trail	Safety	Wikimap	19	2	30	2	27	2
3010	Madison St and Front St Intersection Improvements	Madison St	Front St	Convert to a 3-lane cross-section and replace signal with a modern single-lane roundabout	Safety	Wikimap	24	4	37	4	34	4
3011	Park St and Mount Ave Intersection Improvements	Park St	Mount Ave	Enhance crossing with rapid-flash beacons and bulb outs	Safety	Wikimap	16	1	22	1	22	1
3012	E Broadway St and N Van Buren St Intersection Improvements	E Broadway St	N Van Buren St	Pedestrian crossing	Safety	Wikimap	21	3	33	3	29	3
3013	Owen St and Broadway St Enhanced Crossing	Owen St	Broadway St	Hawk beacon crossing of W Broadway for people traveling on Owen St	Safety	Wikimap	23	3	36	4	32	3
3014	Clark Fork Ln and Mullan Rd Intersection Improvements	Clark Fork Ln	Mullan Rd	Improve turning movements	Safety	Wikimap	15	1	22	1	22	1
3015	California St and River St Intersection Improvements	California St	River St	Install urban mini roundabout	Safety	Wikimap	20	2	30	2	29	3
3016	3rd St and Schilling St Intersection Improvements	3rd St	Schilling St	Relocate crosswalks and add rapid-flash beacon	Safety	Wikimap	20	2	31	3	29	3
3017	Russell St and Ernest Ave Enhanced Crossing	Ernest Ave	Russell St	Move signal from current midblock location to Ernest Ave; consider HAWK signal	Safety	Wikimap	18	2	28	2	26	2
3019	Russell St and River Rd Intersection Improvements	Russell St	River Rd	Improve crossings	Safety	Wikimap	19	2	27	2	25	2
3020	Russell St and Fairview Ave Crossing Improvements	Russell St	Fairview Ave	Add rapid-flash beacon and center median crossing of Russell St at new Fairgrounds Trail	Safety	Wikimap	20	2	31	3	28	3
3021	Orange St and Adler St Intersection Improvements	Orange St	Alder St	Pedestrian crossing	Safety	Wikimap	23	3	34	3	34	4
3022	George Elmer Dr and Mullan Rd Intersection Improvements	Mullan Rd	George Elmer Dr	Install traffic signal	Safety	Wikimap	15	1	24	1	22	1
3023	Brooks St and Stephens Ave Intersection Improvements	Brooks St	Stephens Ave	Consider left-turn light or other safety improvements	Safety	Wikimap	19	2	29	2	27	2
3024	Greenough Dr and Vine St Intersection Improvements	Greenough Dr	Vine St	Add crossing improvements for people walking and biking	Safety	Wikimap	16	1	24	1	23	2
3025	Great Northern Ave and Palmer St Intersection Improvements	Great Northern Ave	Palmer St	Add roundabout	Safety	Wikimap	15	1	24	1	21	1
3026	California St/Toole Ave/Broadway St Intersection Improvements	Broadway St	Toole Ave/California St	Add roundabout, realign intersection, eliminate slip lane, add crosswalk to west leg, and ensure bike access through intersection	Safety	Wikimap	18	2	28	2	24	2
3027	McDonald Ave and Russell St Intersection Improvements	McDonald Ave	Russell St	Add roundabout	Safety	Wikimap	17	2	26	2	24	2

# Opportunity: Weighting Goals

Reflect community priorities



Project Evaluation Results (Weighting 1)

Data Sources: Missoula MPO, ESRI

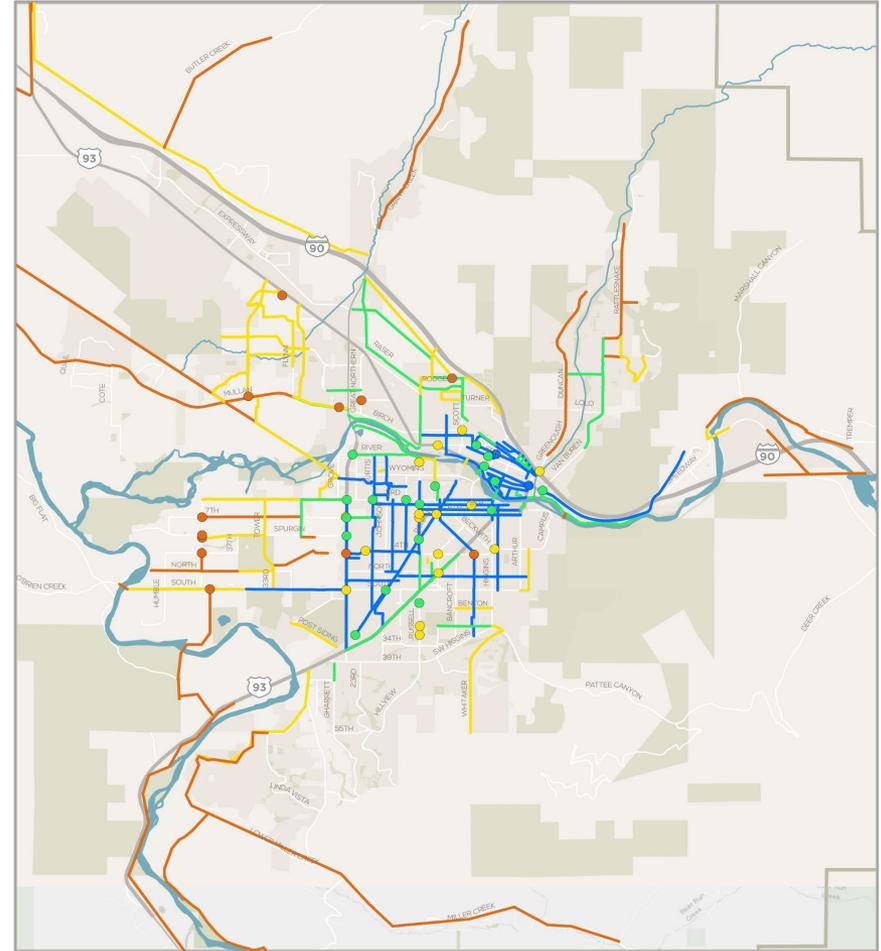
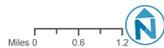
**Intersection Projects**

- Tiers
- 1
  - 2
  - 3
  - 4

**Corridor Projects**

- Tiers
- 1
  - 2
  - 3
  - 4

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



Project Evaluation Results (Weighting 2)

Data Sources: Missoula MPO, ESRI

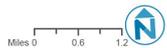
**Intersection Projects**

- Tiers
- 1
  - 2
  - 3
  - 4

**Corridor Projects**

- Tiers
- 1
  - 2
  - 3
  - 4

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



# Land Use and Transportation 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

# 2016 LRTP Approach

## Adjust to better connect land use and transportation

To do this, we began by considered the following:

- Current mode share and potential future mode share.
- The amount of funding expected to be available through 2045, both discretionary and non-discretionary (aka “restricted to certain uses”).
- Anticipated population growth and demographic changes (Chapter 2).
- Anticipated housing and employment growth and where it is expected (or desired) to occur (Chapter 2)
- The list of projects, prioritized by the criteria outlined in Chapter 4, and their construction cost.



Establish funding scenarios



Score & rank projects

STPU/CMAQ - \$30M	Safety
	Transit
	County Projects
	ITS
	TDM
	City Projects
City/MRA - \$67M	Safety
	ITS
	City Projects

Select projects by ranking & eligible funding source

# Key Assumptions & Principles

Objective, transparent, and informative

The scenarios must be shaped in ways that create measurable results and differences. They should:

- Hold constant external factors beyond land use and the transportation system
- Take a fiscally constrained but mode-agnostic approach to funding
- Maintain Missoula's current mode share targets
- Test two growth scenarios using a consistent rate
- Focus transportation network scenarios around what is most important to people
- Be compared across a consistent set of metrics tied to Missoula Connect goals

# Hold Constant External Factors

Keep land use and transportation at the center

- Conditions are unpredictable and will change
- Focusing on land use and transportation provides an opportunity to assess what makes a difference



# Use Fiscally Constrained Approach

Be mode agnostic within total revenue projections

- Establish total anticipated revenue but avoid shaping scenarios by modal revenue allocations
- Program funding to support the best combinations of projects

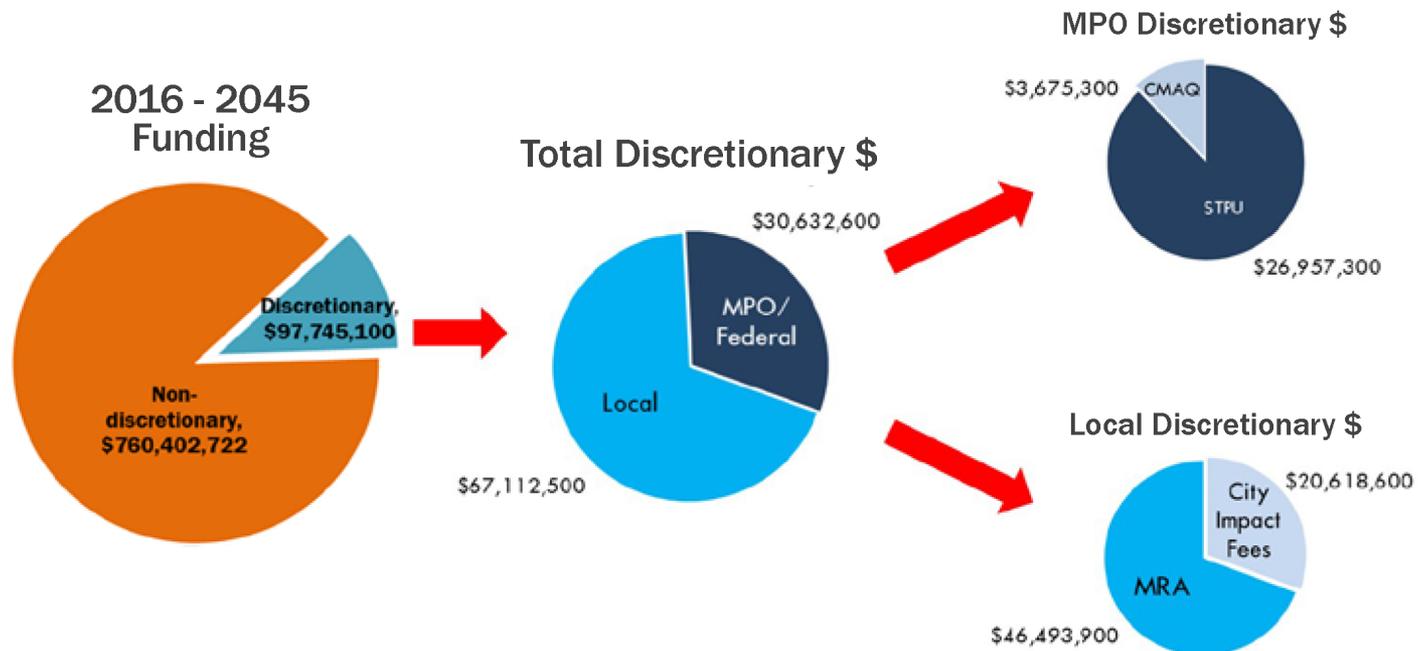
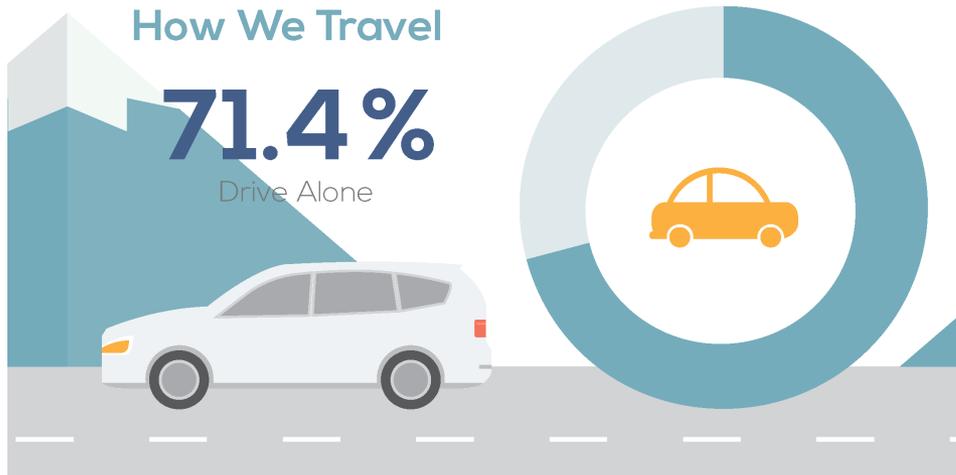


Figure 46. Estimated discretionary and non-discretionary revenues through 2045

# Maintain Current Targets

## Stick with ambitious mode share targets

- While ambitious, there is value in having long-term goals that don't change with every plan update



In our 2016 Long-Range Transportation Plan, we set some ambitious mode-share goals to provide people with better travel options and shift some trips away from driving:



Reduce drive-alone commute share to **34% by 2045**



Reduce drive-alone commute trips by **20,000 by 2045**



**Triple** bike and walk shares and **quadruple** transit share by 2045



Achieve a **small increase** in carpool and work from home

# Test Two Growth Scenarios

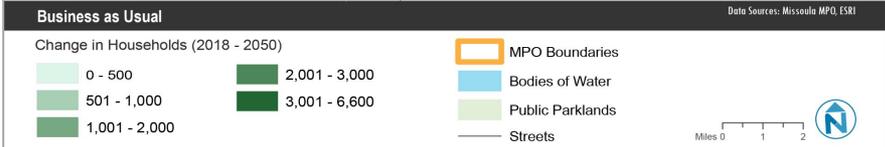
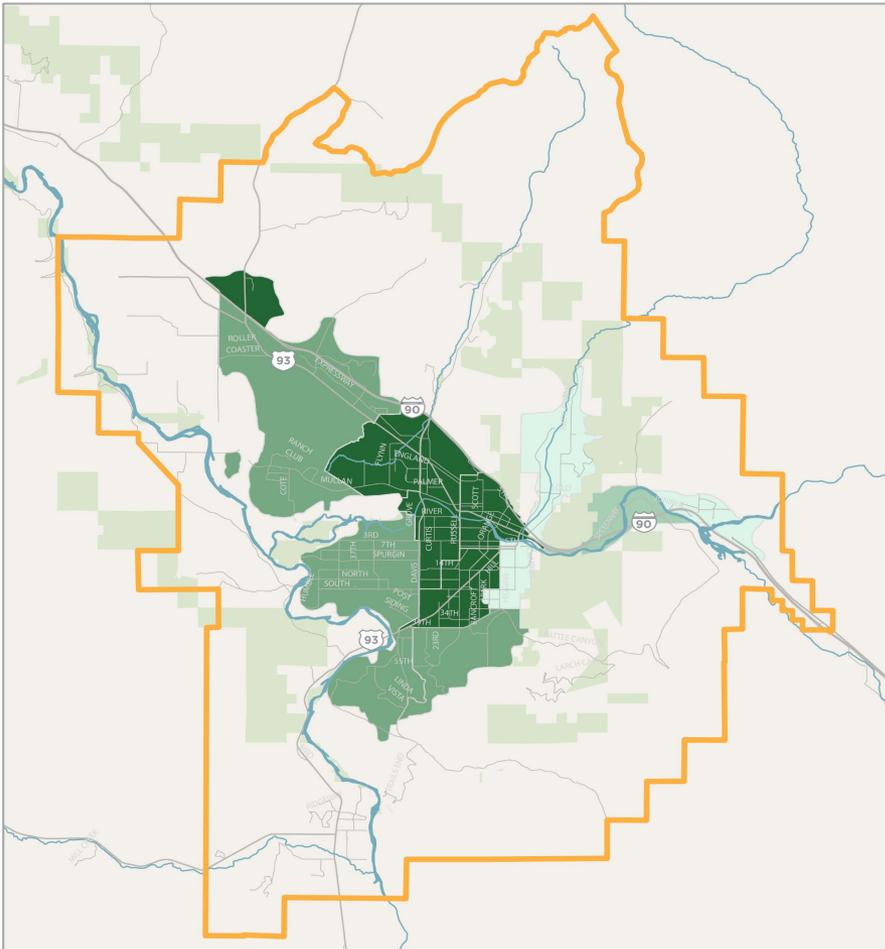
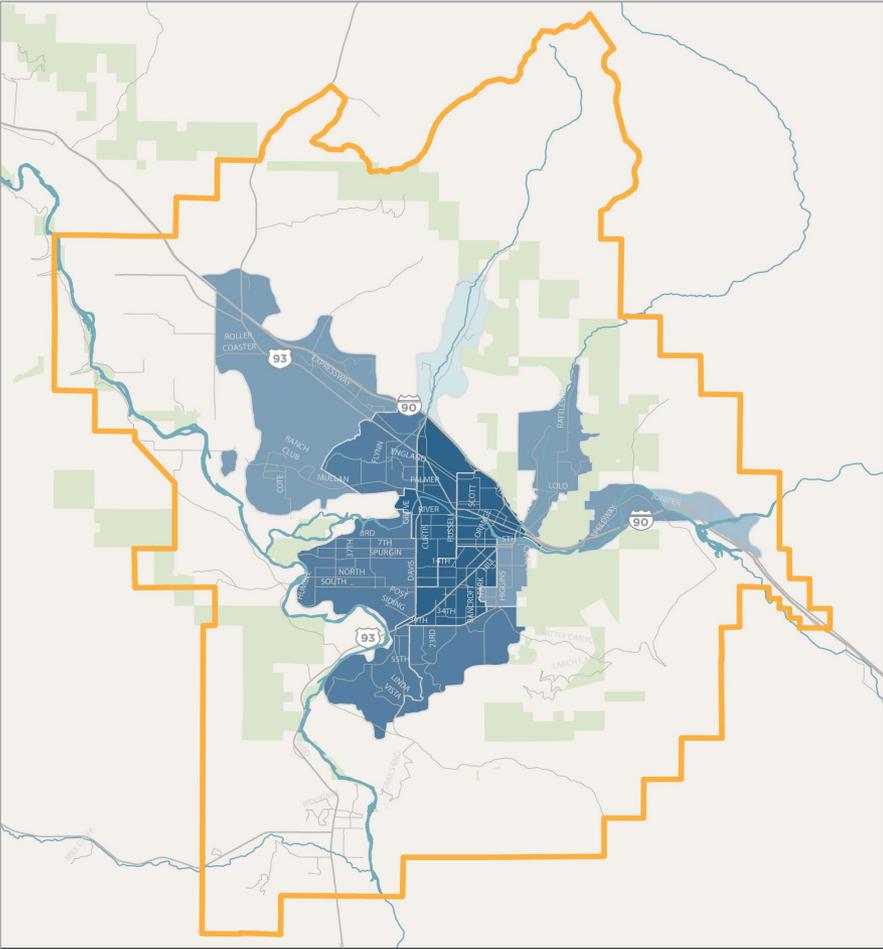
## Use a consistent growth rate

- 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



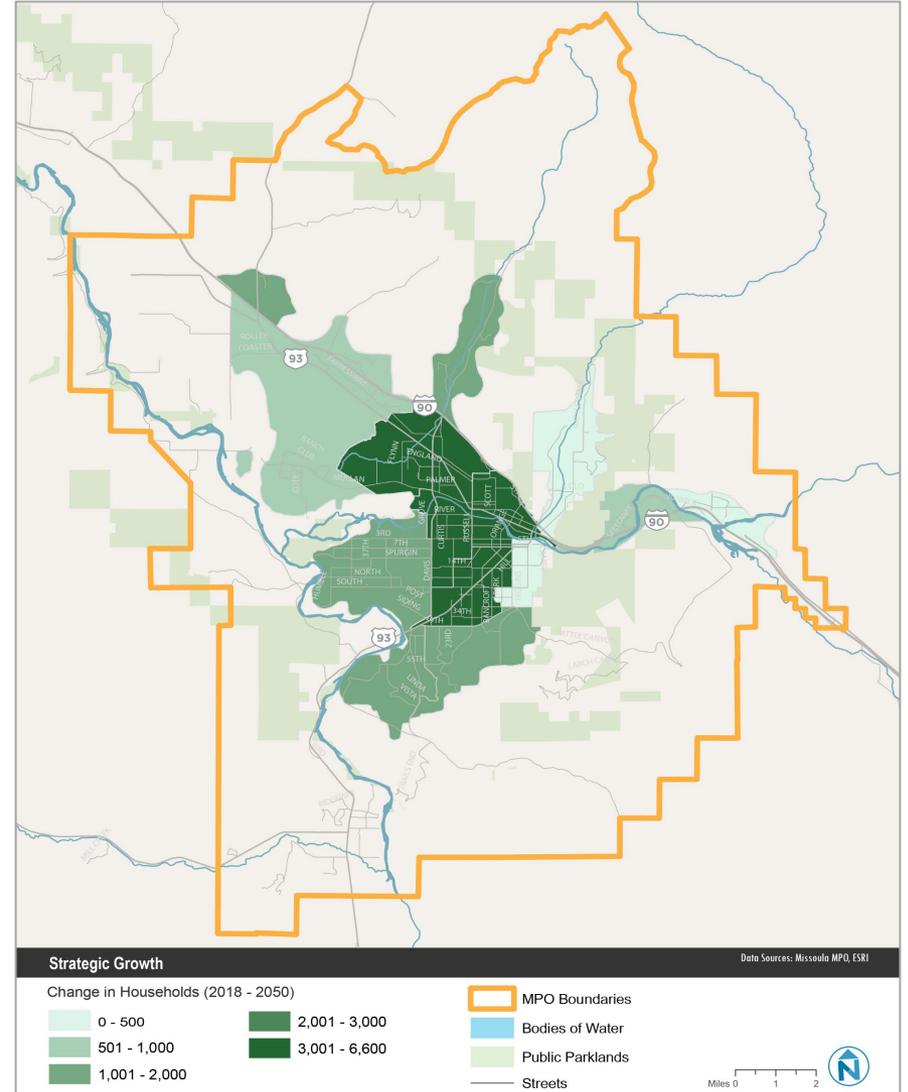
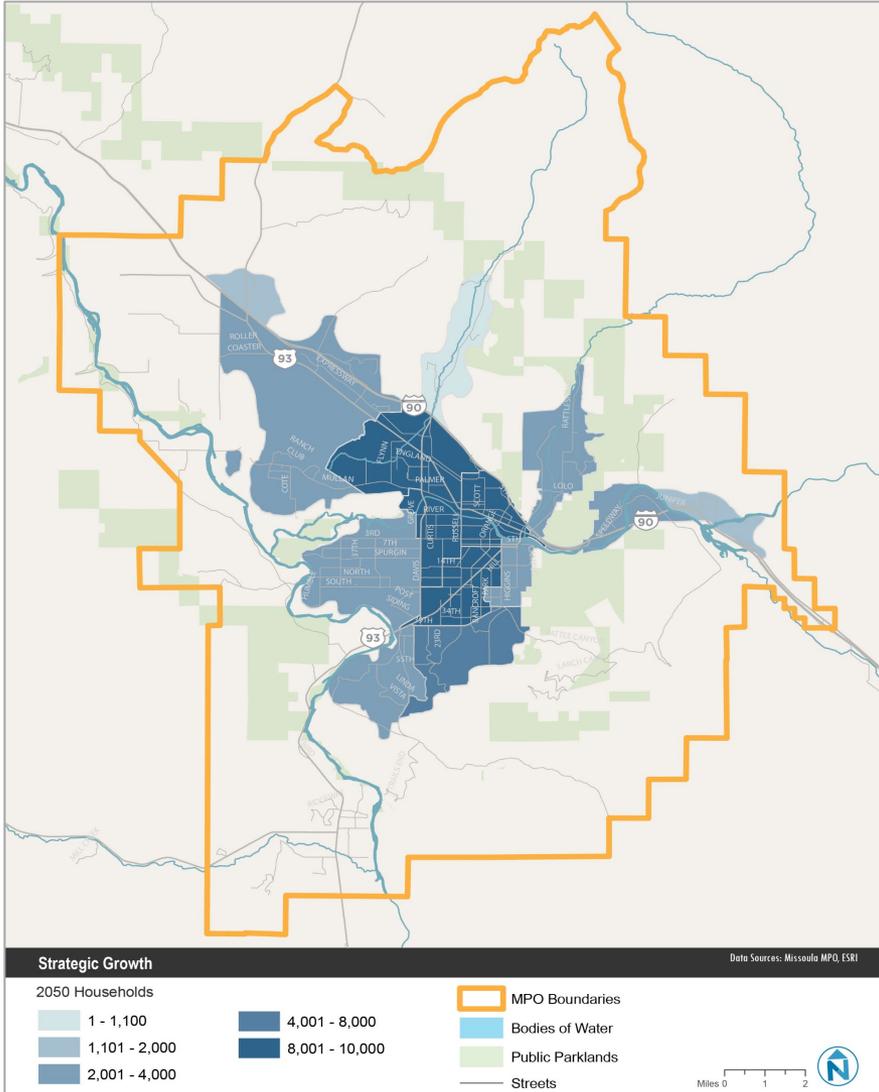
# Business as Usual

Assumes growth according to current policies



# Strategic Growth

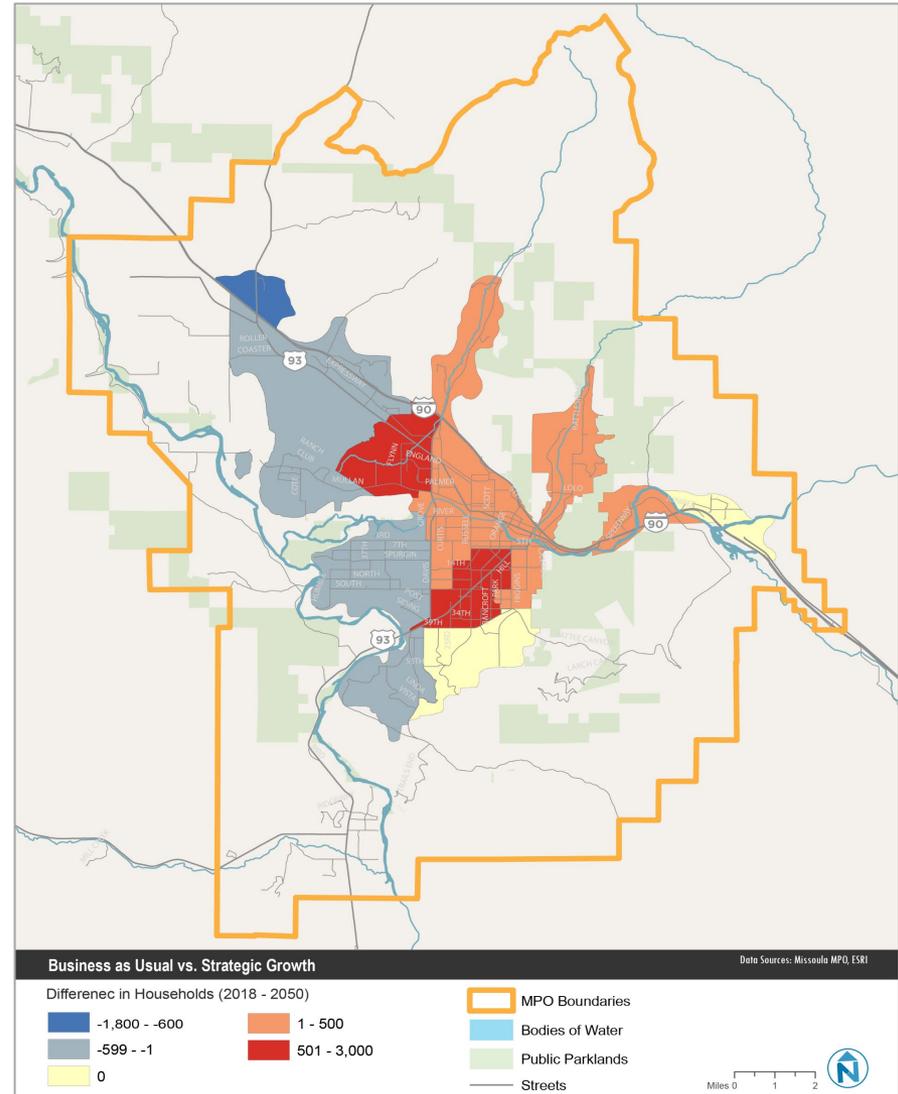
Maximizes focused inward development



# 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

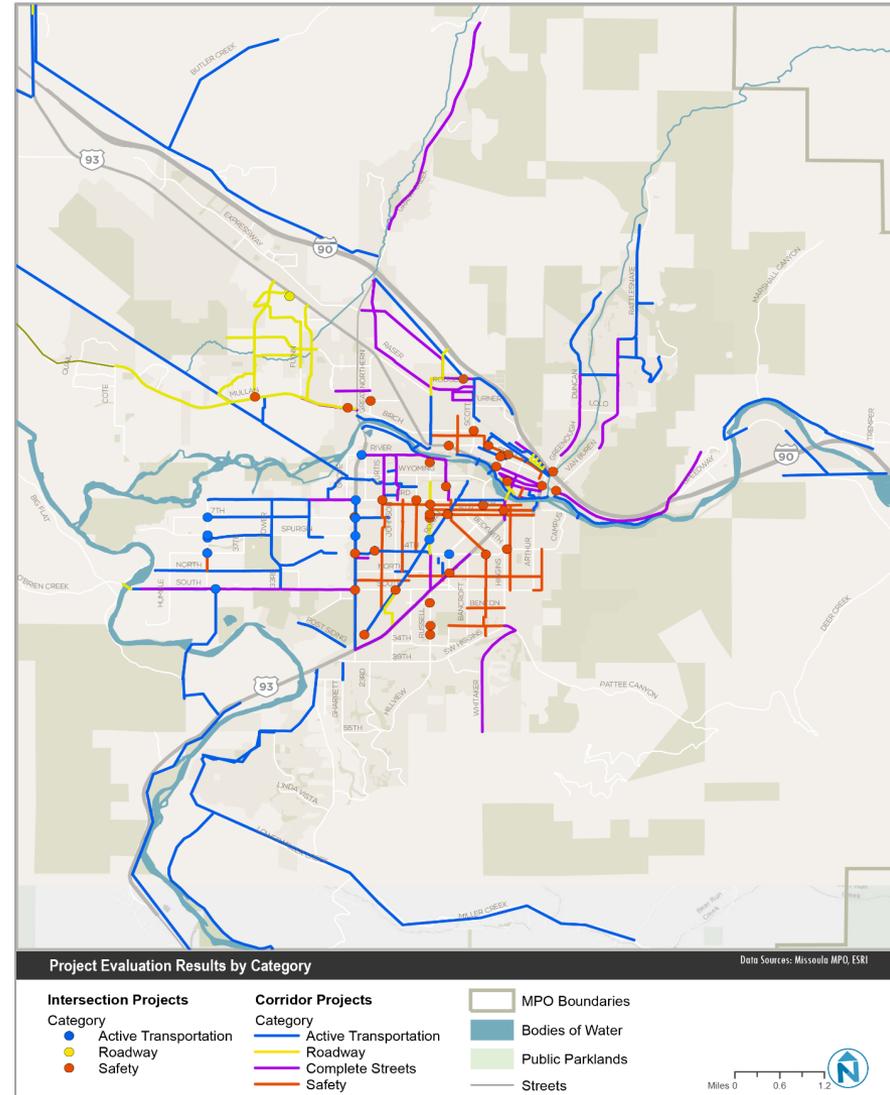


# Combine Transportation Elements

Focus network scenarios around what matters most

Include mix of capital and operational strategies:

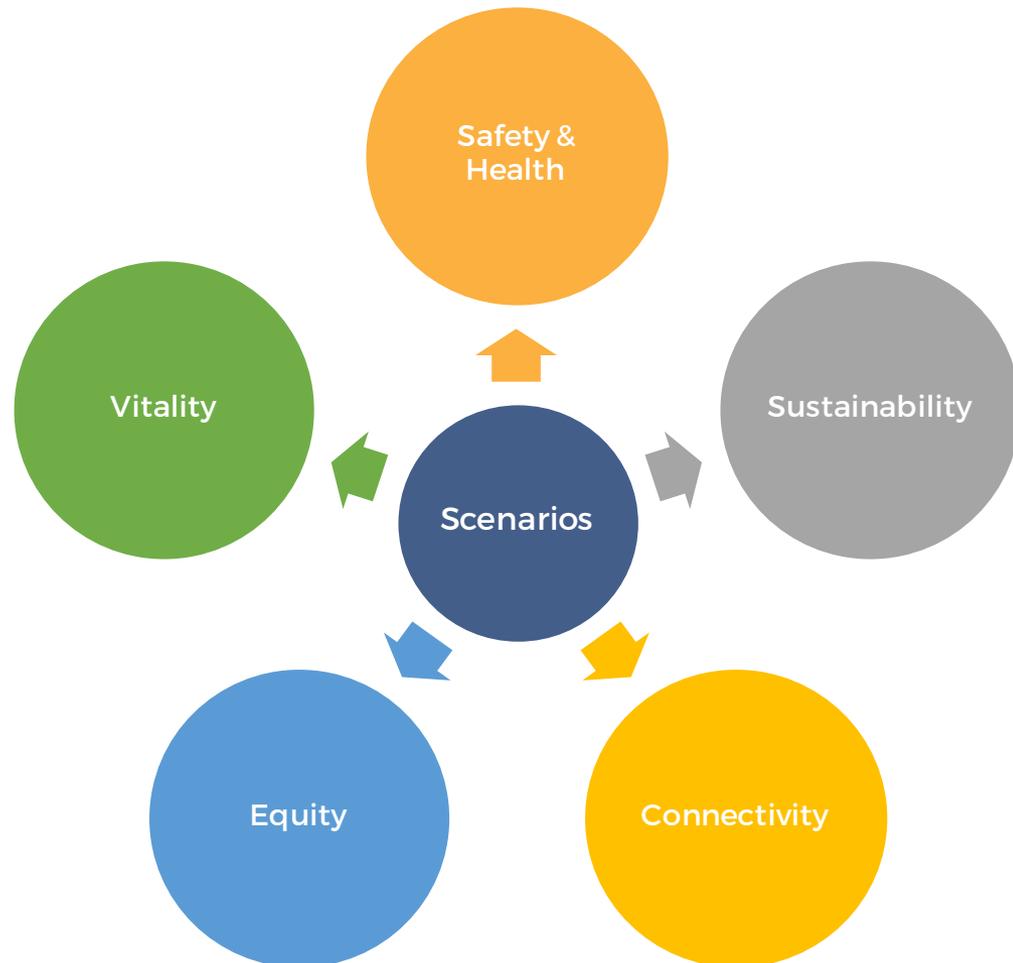
- All modes, including freight
- ITS and technology
- Shared mobility services
- Parking policy and parking management practices
- Transportation demand management
- Other policy and pricing approaches



# Combine Transportation Elements

Focus network scenarios around what matters most

- By mode
- By theme
- By goal or outcome



# Use Consistent Metrics

Tie to goals and reflect desired outcomes



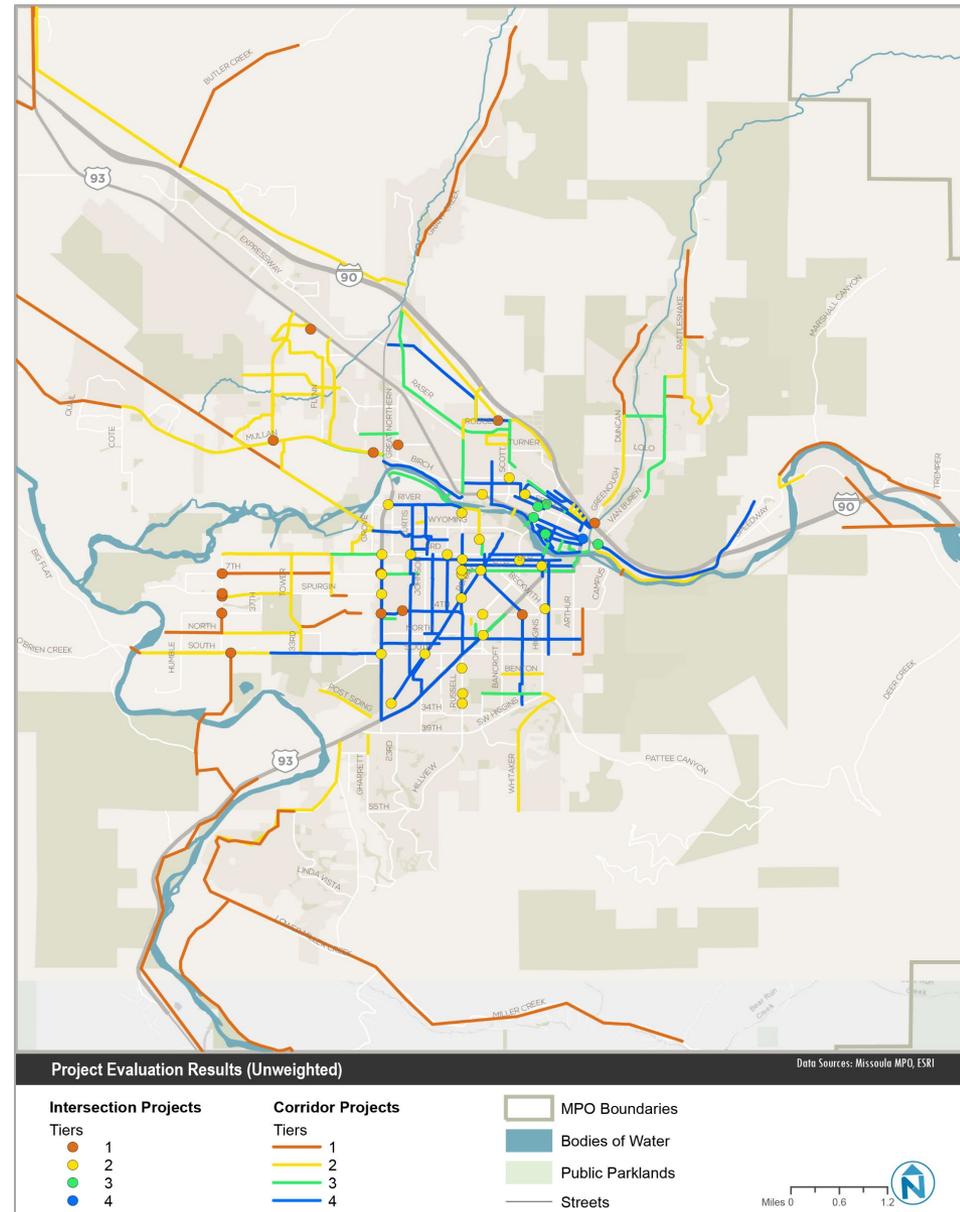
- Safety / crashes
- Transit, walking, and biking trips
- Vehicle miles traveled (VMT)
- SOV trips
- Delay and travel time
- Reliability

- GHGs
- Jobs accessibility
- Access to schools, parks, and community places
- Affordability
- Ability to support growth
- Network condition

# TAC Discussion

## Initial thoughts and feedback

- Does the approach to scenario planning make sense?
- What reactions do you have to the potential land use scenarios?
- What is most important to measure?

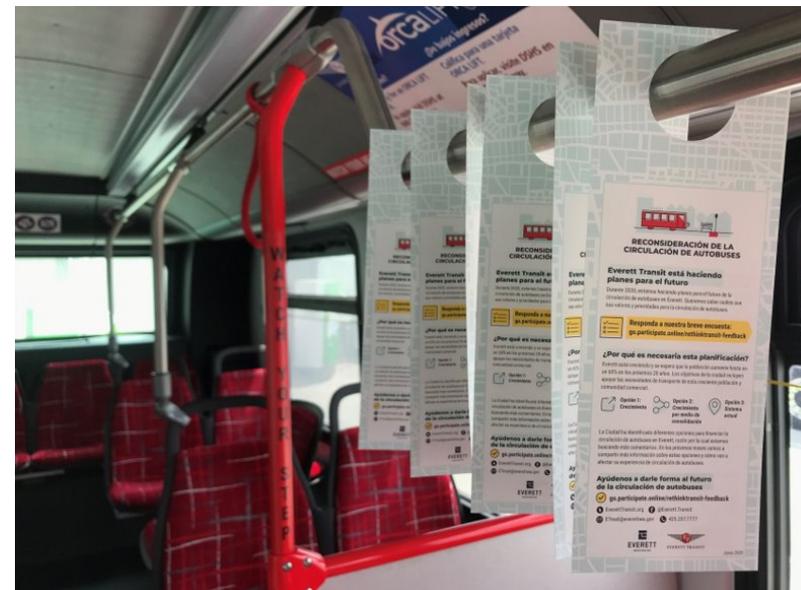


# Questions & Next Steps

# Fall Engagement Planning

## Focus on scenario evaluation results

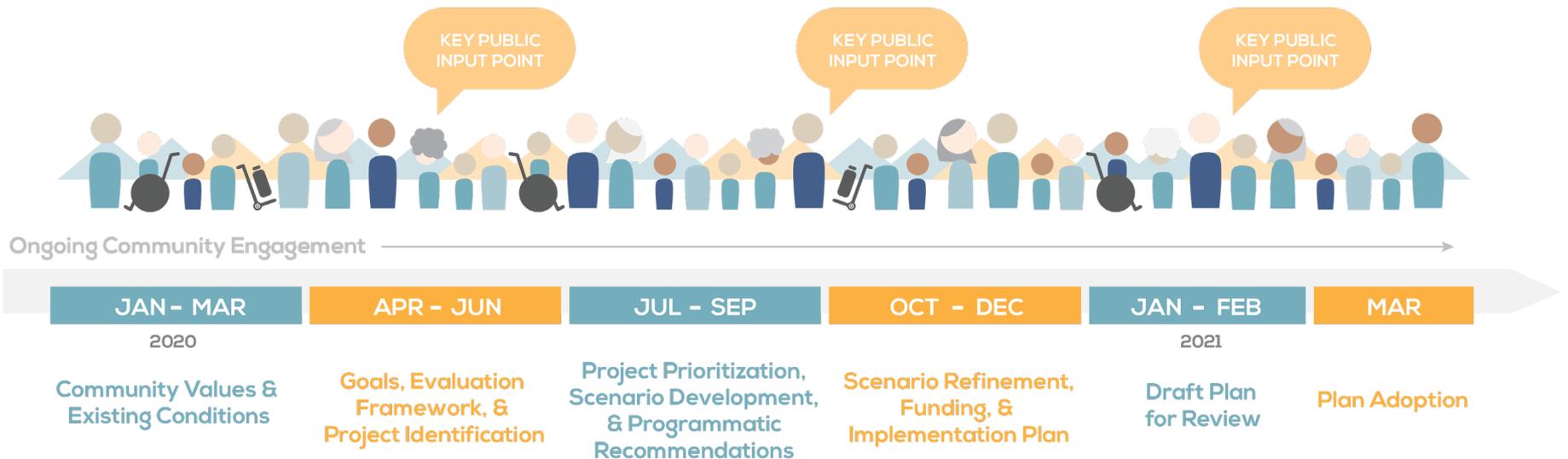
- Online gallery and survey
- Video to “package” easy engagement
- Postage-paid mailer with survey
- Surveys and drop boxes at key service locations (e.g., Food Bank, Urban Indian Health Center)
- Posters at Mountain Line stops and on buses
- Signs at trailheads and local businesses
- Tabling opportunities
- Partner newsletters
- Social and traditional media



# Next Steps

## Priorities for September and October

- Review progress with MPO TPCC
- Refine and finalize project scoring and weighting
- Develop transportation network scenarios
- Establish final metrics and begin evaluation



# Thank you!

Aaron Wilson, MPO  
wilsona@ci.missoula.mt.us

Jennifer Wieland  
jwieland@nelsonnygaard.com

[missoulampo.com/long-range-transportation-plan](http://missoulampo.com/long-range-transportation-plan)