

# ARIZONA RURAL TRANSPORTATION SUMMIT

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January 8, 2015

**Kimley»»Horn**  
Expect More. Experience Better.



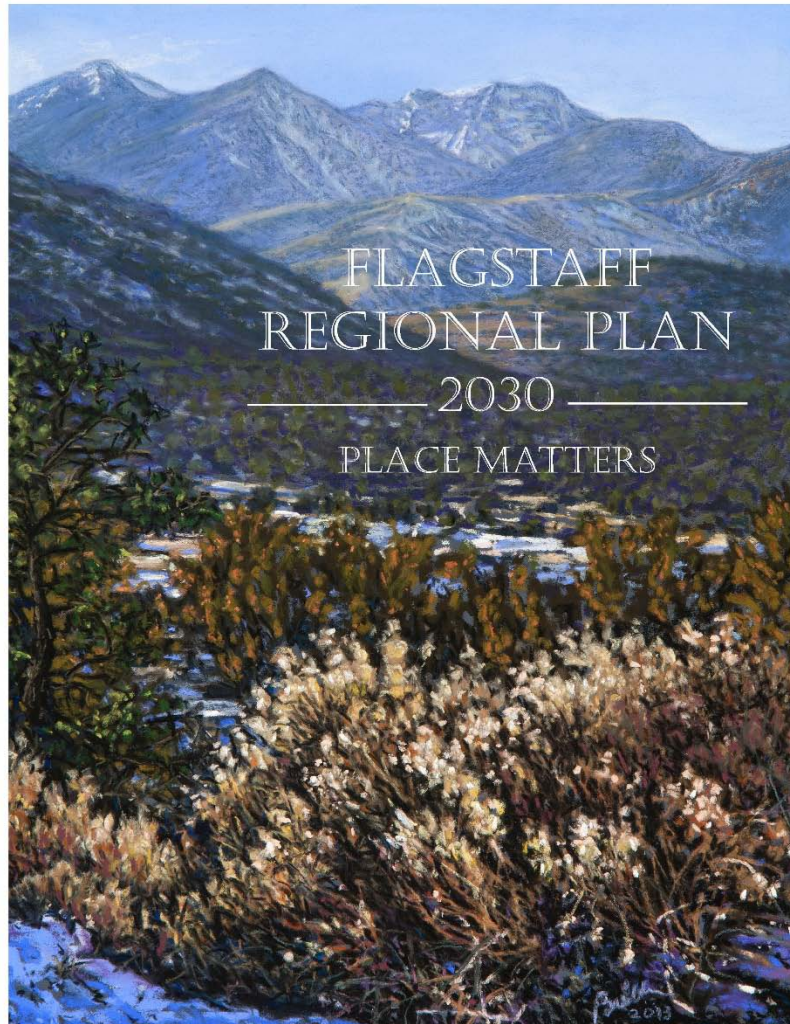


# Why Performance Measurement – MAP-21

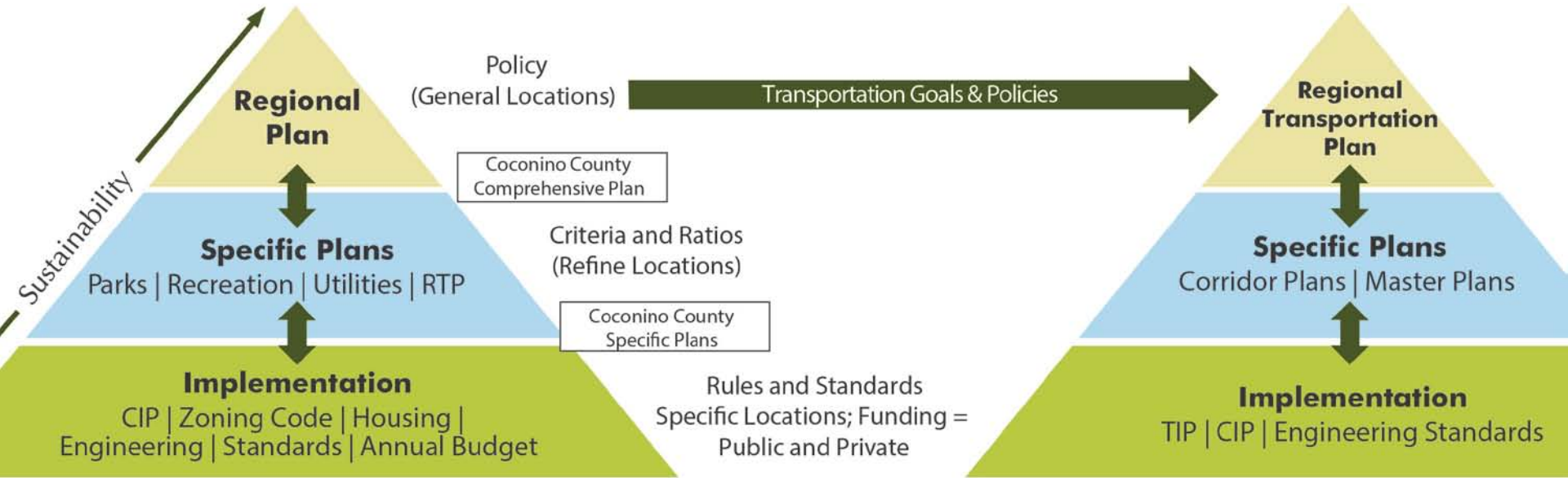
- Transition to performance and outcome-based programs
- Each MPO will establish performance targets that address the MAP-21 surface transportation performance measures



# Flagstaff Regional Plan 2030



# Flagstaff Regional Plan 2030



# Alignment of federal, state, and regional goals

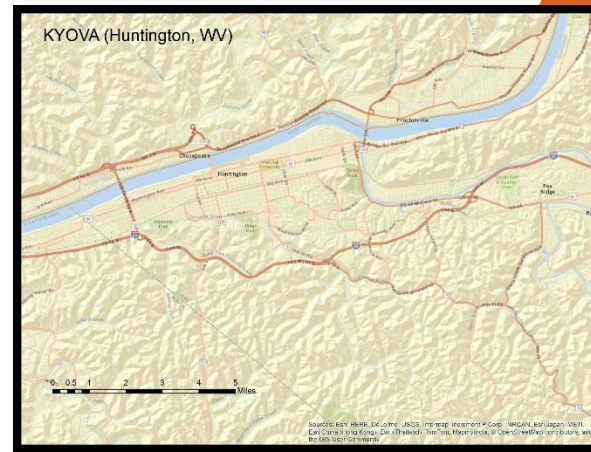
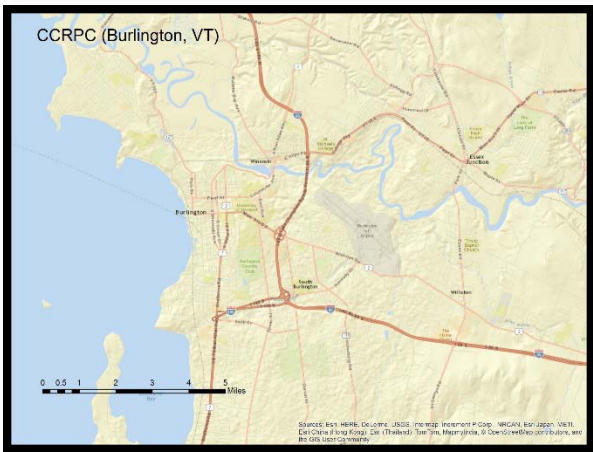
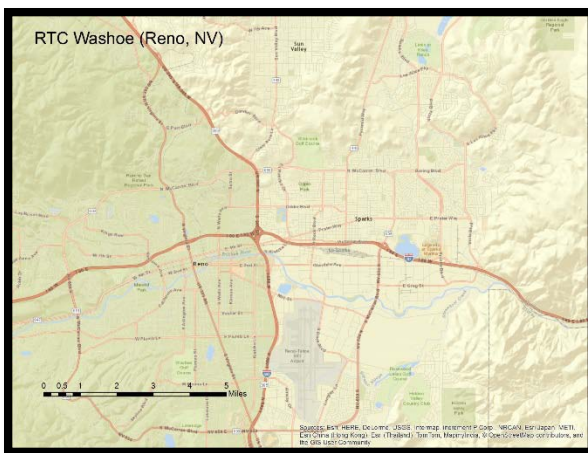
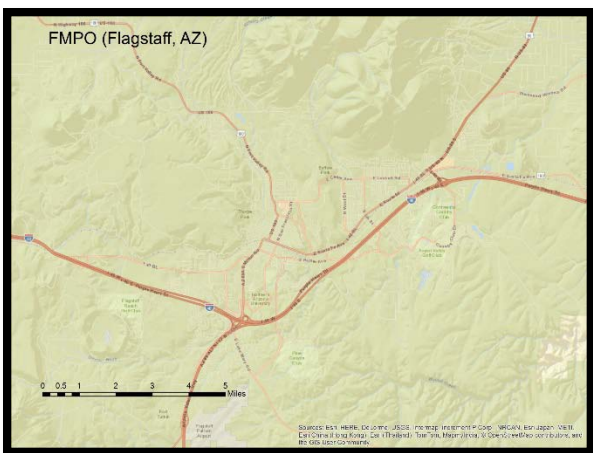
<b>National Performance Goals MAP-21</b>	<b>Planning Factors MAP-21</b>	<b>State Goals - ADOT</b>	<b>Flagstaff Regional Plan 2030</b>
<b>Safety</b>	<b>Safety (2)</b>	<b>Enhance Safety and Security</b>	<b>Safe and Efficient Transportation System</b>
<b>-</b>	<b>Security (3)</b>		<b>-</b>
<b>Infrastructure Condition</b>	<b>Preservation (8)</b>	<b>Preserve and Maintain the System</b>	<b>-</b>
<b>Congestion Reduction</b>	<b>Accessibility (4)</b>	<b>Improve Mobility and Accessibility</b>	<b>Mobility and Access Transit Bicycle Pedestrian Automobiles</b>
<b>System Reliability</b>	<b>Connectivity (6)</b>	<b>Link Transportation and Land Use</b>	
<b>Freight and Economic Vitality</b>	<b>Economic Vitality (1)</b>	<b>Support Economic Growth</b>	<b>Passenger Rail and Rail Freight Air Travel</b>
<b>Environmental Sustainability</b>	<b>Environment &amp; Conservation (5)</b>	<b>Consider Natural, Cultural, and Environmental Resources</b>	<b>Environmental Considerations</b>
<b>Reduced Project Delays</b>	<b>Efficient System Management (7)</b>	<b>-</b>	<b>-</b>

# Performance Measures

RTP Performance Measure Category	Performance Measure	
Mobility Vision and Systems Goals	Delay Vehicle Miles Traveled Crashes Mode Share	Air Quality Natural Resources Cultural Resources Title VI
Pedestrian System Master Plan	Mode Share Network Gaps Crashes	Level of Service Pedestrian Facility Maintenance
Bicycle System Master Plan	Mode Share Network Gaps Crashes	Bicycle Infrastructure Level of Service Operations and Maintenance
Transit System Master Plan	Mode Share Ridership	Productivity Accessibility
Roads and Streets Master Plan	Network Gaps Lane Miles Level of Service	Natural Resources Crashes
Freight Systems Master Plan	Network Gaps Level of Service	Productivity
Intermodal, Aviation, and Passenger Rail Plan	Crashes Passengers (Aviation)	Passengers (Rail) Connectivity (Aviation)

# Benchmarking

- To understand the region's current performance, and where we want to be, a set of peer urbanized areas, of similar size to the Flagstaff Urbanized Area, were identified that are representative of:
  - Current population of the FMPO planning area (75,000)
  - Projected build-out population of the FMPO planning area (150,000)
  - *Flagstaff AZ, Reno NV, St. George UT, Burlington VT, Bellingham WA, Huntington WV*



# Population

■ Flagstaff MPO

■ RTC Washoe (Reno, NV)

■ 5-County MPO (St. George, UT)

■ CCRPC (Burlington, VT)

■ WCOG (Bellingham, WA)

■ KYOVA (Huntington, WV)

500,000  
400,000  
300,000  
200,000  
100,000  
0

[CELLREF]

409,722

122,080


156,545

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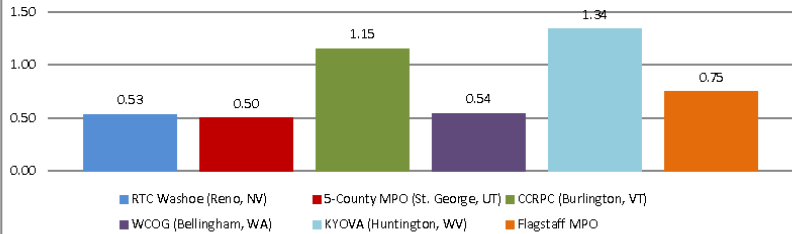
233,000



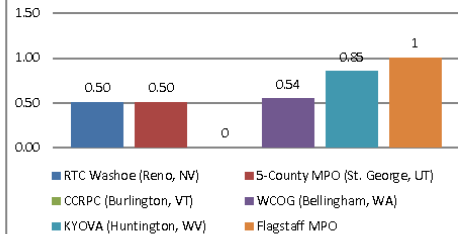
# Benchmarking

- Urbanized Area and MPO Area Population
  - 2010 and 2013 Population
  - Land Area Sq. Miles
  - Density (Persons/Sq. Mile)
  - Miles of Roadway
  - Vehicle Miles Traveled
  - Vehicle Hours Traveled
  - Mode Share
  - Crash Rates
- 

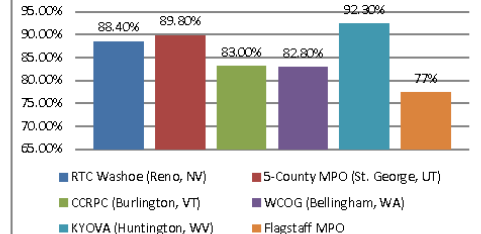
**VHT per Capita, MPO Area**



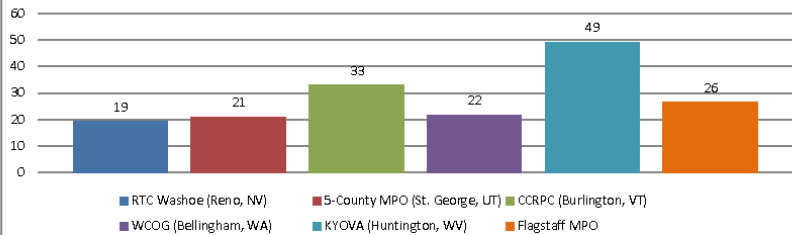
**VHT per Capita, Urban Area**



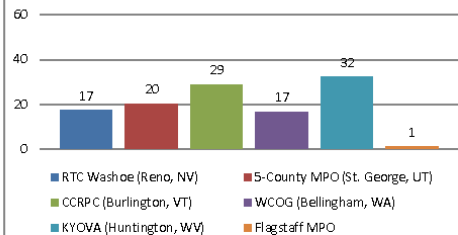
**Mode Share (Journey to Work- Car)**



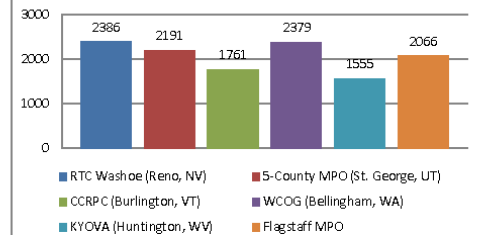
**VMT per Capita, MPO Area**



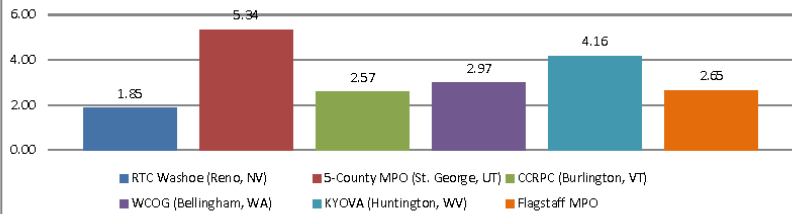
**VMT per Capita, Urban Area**



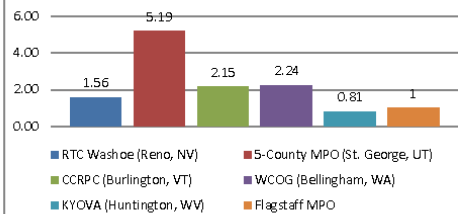
**Urbanized Area Density**



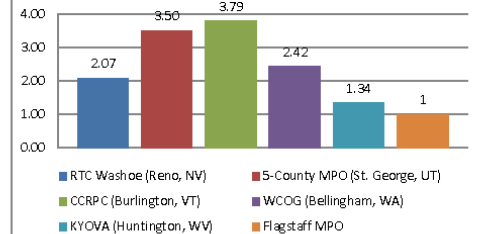
**Roadway Miles per 1000-Capita MPO Area**



**Roadway Miles per 1000-Capita Urban Area**



**Center-Line Miles / Square Mile**



# Summary

	<i>Flagstaff MPO</i>		<i>RTC Washoe (Reno, NV)</i>		<i>5-County MPO (St. George, UT)</i>		<i>CCRPC (Burlington, VT)</i>		<i>WCOG (Bellingham, WA)</i>		<i>KYOVA (Huntington, WV)</i>	
	MPO Area	Urbanized Area	MPO Area	Urbanized Area	MPO Area	Urbanized Area	MPO Area	Urbanized Area	MPO Area	Urbanized Area	MPO Area	Urbanized Area
VMT (per capita)	27.19	18.39	19.27	17.96	20.90	23.57	32.85	-	21.70	21.64	49.01	28.13
<i>RANK</i>	4	2	1	1	2	4	5	-	3	3	6	5
VHT (per capita)	0.79	0.59	0.53	0.51	0.50	0.59	1.15	-	0.54	0.60	1.34	0.85
<i>RANK</i>	4	3	2	1	1	2	6	-	3	4	5	5
Density (pop. / sq. mi)		2066		2386		2191		1761		2379		1555
<i>RANK</i>		4		1		3		5		2		6
Center line miles (mi/k-person)	2.65	1.64	1.85	1.57	5.34	6.05	2.57	2.15	2.97	2.24	4.16	0.71
<i>RANK</i>		4		5		1		3		2		6
Center line miles / land area	0.42	3.39	0.12	3.75	1.50	13.25	0.75	3.79	0.24	5.33	0.56	1.10
<i>RANK</i>		5		4		1		3		2		6
Mode Share (JTW) - Car	77.3%		88.4%		89.8%		83.0%		82.8%		92.3%	
<i>RANK</i>	1		4		5		3		2		6	
VMT + VHT	27.99	18.98	19.81	18.46	21.40	24.16	34.00	-	22.24	22.24	50.35	28.98
<i>RANK</i>	4	2	1	1	2	4	5	-	3	3	6	5

Region (rank)	Comments
Flagstaff (4)	Decent performance within urbanized area. Excellent mode share.
Reno (1)	Similar densities to Flagstaff. Very strong arterial network. Weak mode share.
St. George (2)	Similar densities to Reno and Flagstaff. Solid network in both directions. Decent capacity.
Burlington (5)	Good mode share, but low density. Similar network issues to Flagstaff. Most roads appear 2-lane, weak capacity.
Bellingham (3)	Solid mode-share w/ good density. Good network.
Huntington (6)	Very weak network. Very weak transit. Infrequent bridges

# Lessons Learned

- Intent was to compare MPO's similar to FMPO current size (85,000) and MPO's at projected build out (150,000); only received data from larger MPO's
- Conclusions:
  - No clear patterns, but apparent strengths and weaknesses may assist to determine if a target is reasonable or attainable
  - Connectivity appears to be an important factor, though broadly measured by center line or lane miles per area
  - Mode share plus connectivity appear to counterbalance capacity