

Minutes of the Seventh Joint Meeting of the

**ADVISORY COMMITTEES ON REGIONAL LAND USE PLANNING
AND REGIONAL TRANSPORTATION SYSTEM PLANNING**

DATE: October 15, 2014

TIME: 9:30 a.m.

PLACE: Tommy G. Thompson Youth Center
640 S. 84th Street
Milwaukee, Wisconsin

Members Present

Committee on Regional Land Use Planning

Julie Anderson Director of Public Works and Development Services, Racine County
Chair
Robert J. Bauman Alderman, City of Milwaukee
Andy M. Buehler Director of Planning Operations, Kenosha County
Michael P. Cotter Director, Walworth County
Land Use and Resource Management Department
Charles Erickson Community Development Manager, City of Greenfield
Daniel F. Ertl Director of Community Development, City of Brookfield
Jason Fruth Planning and Zoning Manager, Waukesha County
Douglas J. Koehler Planner, City of Waukesha
Jeffery B. Labahn Director, Community Development and Inspections, City of Kenosha
Mark Piotrowicz City Planner/Operations Manager, City of West Bend
Matthew Sadowski Assistant Director, City of Racine Department of City Development
Karen Schmiechen (alternate for Sheri Schmit) Transit Urban Planner,
Wisconsin Rideshare Program Manager,
Wisconsin Department of Transportation
Debora Sielski Deputy Planning and Parks Administrator,
Manager of Planning Division, Washington County
Todd Stuebe Director of Community Development, City of Glendale
Andrew T. Struck Director, Planning and Parks Department, Ozaukee County

Committee on Regional Transportation System Planning

Fred Abadi Director of Public Works, City of Waukesha
Julie Anderson Director of Public Works and Development Services, Racine County
Anthony J. Barth (alternate for Sheri Schmit) Systems Planning Supervisor,
Wisconsin Department of Transportation
Kevin M. Brunner Director of Central Services, Walworth County Public Works Department
Allison M. Bussler Director, Department of Public Works, Waukesha County
David E. Cox Village Administrator, Village of Hartland
Peter Daniels (alternate for Michael Lewis) Principal Design Engineer, City of West Allis
Gary Evans Highway Engineering Division Manager, Waukesha County

Committee on Regional Transportation System Planning (continued)

Jennifer Gonda Legislative Liaison Director, City of Milwaukee
Thomas M. Grisa Director, Department of Public Works, City of Brookfield
Michael Friedlander (alternate for Bart Sponseller) Bureau of Air Management,
Wisconsin Department of Natural Resources
T.J. Justice City Administrator and Director of Development, City of West Bend
Nik Kovac Alderman, City of Milwaukee
Michael M. Lemens Director of Public Works and City Engineer, City of Kenosha
Dwight E. McComb Planning and Program Development Engineer,
Federal Highway Administration, U.S. Department of Transportation
John Nordbo (alternate for Don Gutkowski) Bureau of Planning and Economic Development,
Wisconsin Department of Transportation
Jeff Polenske City Engineer, City of Milwaukee
William D. Sasse Director of Engineering, Village of Mt. Pleasant
Jay Saunders (alternate for Michael Mayo Sr.) Public Information Assistant,
Milwaukee County
Dennis Yaccarino Senior Budget and Policy Manager, Budget and Management Division,
Department of Administration, City of Milwaukee

Guests and Staff Present

Ann Dee Allen Senior Public Involvement and Outreach Specialist, SEWRPC
Michael G. Hahn Deputy Director, SEWRPC
Christopher T. Hiebert Chief Transportation Engineer, SEWRPC
Ryan W. Hoel Principal Planner, SEWRPC
Benjamin R. McKay Principal Planner, SEWRPC
David A. Schilling Chief Land Use Planner, SEWRPC
Matthew Schreiber Urban and Regional Planner, Division of Transportation Investment Management,
Bureau of Statewide Planning & Economic Development, Wisconsin Department of Transportation
Kenneth R. Yunker Executive Director, SEWRPC

CALL TO ORDER

Ms. Anderson called the joint meeting of the Advisory Committees on Regional Land Use Planning and Regional Transportation System Planning to order at 9:35 a.m., welcoming those in attendance. Ms. Anderson stated that roll call would be accomplished through circulation of a sign-in sheet.

REVIEW AND APPROVAL OF MINUTES OF THE JOINT MEETING OF THE ADVISORY COMMITTEES ON REGIONAL LAND USE PLANNING AND REGIONAL TRANSPORTATION SYSTEM PLANNING HELD ON JULY 30, 2014

Ms. Anderson asked if there were any questions or comments on the July 30, 2014, meeting minutes. There were none. Ms. Anderson asked for a motion to approve the meeting minutes. Mr. Justice moved and Mr. Saunders seconded to approve the July 30, 2014, meeting minutes. The motion was approved unanimously.

DISCUSSION OF SCHEDULE AND LOCATION OF FUTURE JOINT ADVISORY COMMITTEE MEETINGS

Ms. Anderson asked Mr. McKay of the Commission staff to review upcoming meeting dates and locations. Mr. McKay noted that members of the Committees were provided with a tentative schedule for future meetings in their meeting packets. He stated that the next Joint Advisory Committee meeting is scheduled for November 19, 2014, at 9:30 in Meeting Room 5 of the Tommy Thompson Youth Center.

UPDATE ON VISION 2050 SKETCH LAND USE AND TRANSPORTATION SCENARIOS

Ms. Anderson asked Mr. McKay to provide an update on the VISION 2050 sketch land use and transportation scenarios. Mr. McKay noted that a PowerPoint handout titled “Review and Evaluation of Regional Land Use and Transportation Scenarios” had been distributed to members at the meeting (the PowerPoint is available at www.sewrpc.org/scenariopresentation). He noted that the sketch scenarios were presented and evaluated at the third series of visioning workshops. Mr. McKay stated that public input will be used to help refine the five sketch scenarios into three more detailed alternative plans. He noted that this update on the sketch scenarios is intended to allow the members of the Committees to comment and provide direction on refining the sketch scenarios into three alternative plans and the evaluation of the alternative plans. He then noted that a handout titled “Review of Sketch Scenarios,” which includes a scorecard that measures the performance of the scenarios against 13 criteria, was provided to members of the Committees in their meeting packets (see Attachment 1). The following comments and discussion points were made during the review:

1. Mr. Grisa asked if the scenario scorecard was used at the visioning workshops and if there would be any value in modifying the scorecard. Mr. Yunker responded that suggestions for modifying the scorecard format would be helpful for evaluating the more detailed alternative plans. Mr. Grisa questioned whether the current format indicates the degree of difference between the best and worst performing scenarios. Mr. Yunker responded that the same observation was shared with several staff members during the visioning workshops and stated that staff may revise the scorecard format for evaluating alternative plans. He stated that the format for evaluating the alternative plans will be reviewed by the Committees prior to the next series of visioning workshops.
2. Mr. Grisa noted that it appears highway and transit costs are combined under the “Average Annual Transportation System Investment” criterion. He suggested separating the highway and transit costs. Mr. Yunker responded that highway and transit cost data can be presented separately for evaluating the alternative plans. Mr. Yunker noted that it has also been suggested that staff present the private cost of transportation to individual residents or households.
3. Mr. Grisa referred to the “Access to High Quality Transit” criterion and stated that it seems to define high quality transit as having a dedicated right-of-way. Mr. Yunker stated that this criterion does define high quality transit as having a dedicated right-of-way that would not be impacted by traffic congestion and also having less frequent station spacing to allow for higher operating speeds that can compete with private automobile travel. Mr. Grisa questioned whether the criterion title may diminish the value of a robust local bus system with significantly improved service. Mr. Bauman stated that high quality transit is a function of travel time and distance. He stated that dedicated right-of-way greatly increases speed as opposed to operating in congested traffic conditions, and noted that the benefits in reduced travel time increase with distance. Mr.

Yunker noted that the visioning workshops included small group discussions where staff members provided detailed descriptions of the scenarios and criteria so they were clearly understood by attendees.

4. Mr. Bauman asked about the attendance at the visioning workshops. Mr. Yunker responded that about 70 people attended the workshop in Milwaukee County and between 20 and 40 people attended the workshops in the six other Counties. He noted that eight additional workshops were hosted by partner community organizations. About 20 to 25 people attended each of the partner workshops. In addition, Commission staff conducted workshops and presentations with a number of groups by request.

Mr. Yunker stated that Commission staff would like to have discussion by the Committees on each sketch scenario. The following comments and discussion points were made by members of the Committees:

Scenarios A and B

1. Mr. Grisa asked if Scenario A is significantly different from the currently adopted year 2035 regional land use and transportation system plans. Mr. Yunker stated that Scenario A reflects regional land use and transportation development trends over the last twenty years. He noted that Scenario B is similar to the year 2035 regional land use and transportation system plans. Mr. Grisa asked about the implementation status of the recommended plans. Mr. Yunker noted that that a review of the implementation of the currently adopted year 2035 regional land use and transportation system plans is set forth in Chapter III of the VISION 2050 plan report, which was reviewed by the Committees. Mr. Yunker noted some of the key recommendations that have been substantially implemented, some that have been partially implemented, and some that have not been implemented.

Mr. Yunker stated that most new residential development has occurred in areas consistent with regional plan recommendations; however, density recommendations have been only partially implemented. More high density residential development has occurred than envisioned under the plan; however, less medium density and more low density residential development has occurred than envisioned under the plan.

Mr. Yunker stated that significant progress on the bicycle and pedestrian element of the regional plan was made and numerous transportation systems management and travel demand management measures have been continued, implemented, or expanded in accordance with the plan. Planned improvement and expansion of the arterial street and highway system has progressed, although implementation has generally been slower than anticipated due to limited available funding.

Mr. Yunker stated that in contrast to other transportation plan elements, the public transit element has not been implemented. Instead, service has been declining since the year 2000 due to inadequate funding. He stated that insufficient funding more severely affects public transit than highways because highway funding is largely capital funding for construction projects, while transit funding is largely operating funding for providing service. Lagging highway funding results in project deferral or delay, but lagging transit funding results in service elimination or passenger fare increases.

Mr. Yunker stated that there needs to be an increased appreciation of the different transportation needs of residents throughout the Region, and there is a need to move towards dedicated local funding of transit, which came close to happening in 2009 and 2010.

Scenarios C, D, and E

1. Mr. Sasse noted that there would be no widening of highways to reduce congestion under Scenario C and asked why traffic congestion is not addressed under this scenario, as well as Scenarios D and E. Mr. Yunker responded that the sketch scenarios are intended to present very different outcomes to allow the public to consider the long-term consequences of alternative paths of developing the Region's land and transportation system. Mr. Yunker stated that detailed alternative plans would likely represent hybrids of the sketch scenarios.
2. Mr. Justice noted that all of the scenarios include continued expansion of the regional bicycle network. He then asked if there is data regarding the number of bicycle trips that are made for recreational purposes and commuting purposes. Mr. Yunker responded that utilitarian bicycle trip data will be included in Volume I, Chapter V, of the VISION 2050 plan report, which should be mailed out to members of the Committees within about a week. He stated that the data shows there has been an increase in both recreational and utilitarian bicycle trips. Mr. Yunker noted that the number of both trip types vary by season and location in the Region, with more trips in high density areas. He also noted that accommodation of bicycle travel is required, where reasonable, for highway construction and reconstruction projects receiving State or Federal funding. In addition, all of the Counties in the Region have expanded off-street facilities, which carry both recreational and utilitarian trips. Mr. Bauman noted that some automobile trips are also made for recreational purposes.
3. Mr. Saunders asked why there is so much emphasis on bicycle facility development in a cold weather Region. Mr. Yunker noted that staff received a similar comment from the Commission's Environmental Justice Task Force. He stated that staff will be able to provide the percentage of total transportation system investment identified in the more detailed alternative plans attributable to bicycle facilities; however, it will likely be a negligible amount. Mr. Polenske stated that cold weather season bicycling is increasing in the City of Milwaukee because of the City's priority on providing bicycle accommodations on streets that do not have space constraints. He stated that roadways that are unaccommodating during the winter are the more likely cause of significantly reduced usage, not the cold weather. Mr. Friedlander noted that the estimated impact of a \$25,000,000 Federal grant to invest in bicycle lanes in Sheboygan County is an increase in bicycle travel of about 5 percent.
4. Mr. Erickson referred to the Scenario C public transit service map in Attachment 2 of the July 30 meeting minutes and asked for clarification between light rail, commuter rail, and intercity rail lines. Mr. Yunker responded that light rail would have stops approximately every half mile to a mile, service frequencies of five to 15 minutes, and a dedicated right-of-way. Commuter rail would have stops approximately every two to five miles, service frequencies of 15 to 60 minutes, and operate over existing freight lines. Commuter rail would be able to achieve higher average speeds than light rail and is intended for traveling longer distance. Intercity rail would be similar to Amtrak's Hiawatha service, which has even higher average speeds and has stations that are located significant distances from each other. Mr. Evans asked if light rail ridership was

identified. Mr. Yunker responded that light rail ridership was forecast, and will be identified by route in the alternative plans stage.

5. Mr. Grisa asked why Scenario C performs better than Scenario D under the “Households with Affordable Housing + Transportation Costs” (H+T) Criterion. Mr. Yunker responded that a larger number of households were allocated to areas with rapid transit corridors in Scenario C. Mr. Grisa asked how the affordability threshold is determined. Mr. Yunker responded that the generally accepted standard for H+T affordability is 45 percent of an area’s median household income, which combines a housing affordability standard of 30 percent of income with a transportation affordability goal of 15 percent of income. Improved transit service and higher residential density results in increased transit ridership and lower transportation costs.
6. Mr. Justice asked if issues important to private businesses such as just-in-time delivery and the ability to ship and receive materials were included in the scenario evaluation. Mr. Yunker responded that traffic congestion is a scenario evaluation criterion. He noted that the Commission has assembled a Task Force on Freight Transportation to provide guidance on issues that are important to the Region’s freight transportation shippers and providers. He stated that the Commission has also assembled a Task Force on the Transportation Needs of Business, Industry, Workforce Development, and Higher Education. Mr. Yunker stated that issues identified up to this point in the planning process have been the difficulty of moving oversize and overweight loads, need for a rail/truck intermodal facility, and trucking capacity.

Mr. Yunker asked if there were any further comments on the individual scenarios. There being none, Mr. Yunker then stated that Commission staff would like to provide time for discussion by the Committees on formulating more detailed alternative plans and evaluating the alternative plans. The following comments and discussion points were made by members of the Committees:

1. Mr. Sasse stated that lower density areas of the Region may need to be treated differently than higher density areas of the Region in all of the alternative plans. He noted that some lower density areas of the Region are anticipating continued growth at densities that may not support transit service. He stated that increasing highway capacity in these areas may be needed even under the alternative plan with the most robust transit system.
2. Mr. Kovac stated that the evaluation criteria need to measure outcomes that would be beneficial to the entire Region. He noted that more transit would increase access to jobs for residents of the Region’s largest urban areas and decrease congestion for residents commuting from outlying areas.
3. Mr. Bauman stated that modernization improvements to highways can lead to increased capacity. He stated that one of the alternative plans should focus on neglected elements of the Region’s infrastructure and noted that some traffic congestion is a sign of a thriving city. He noted that scenarios C, D, and E do not include highway capacity additions and stated that this should be carried forward in one of the alternative plans. Mr. Yunker asked if Mr. Bauman was suggesting that there should be an alternative plan with no highway capacity additions regionwide or only in the Milwaukee area. Mr. Bauman responded there should be no highway capacity additions regionwide.

4. Mr. Piotrowicz noted that a transit oriented development alternative plan with no additional highway capacity may suggest redirection of development inconsistent with comprehensive plans adopted by some of the local governments in the Region. He noted that the collective local government comprehensive planning processes in the Region included significantly more public input than will be obtained through the VISION 2050 planning process. Mr. Yunker stated that the purpose of the scenario and alternative plan phases of the VISION 2050 planning process is to examine regional development options and their implications. Mr. Yunker stated that the final VISION 2050 plan will be advisory, and may be expected to include some recommendations that are consistent with local comprehensive plans, and may also include some recommendations that vary from local comprehensive plans, and those recommendations would be intended for local governments to consider as they update their comprehensive plans.
5. Mr. Grisa noted that the regional transportation planning process traditionally has identified travel demand and analyzed how much of that demand could be accommodated through transit and bicycle and pedestrian facility expansion. The remaining demand was then addressed through highway capacity additions. Mr. Grisa asked if a similar staged planning process will be used for the VISION 2050 plan. Mr. Yunker responded that it is expected that a similar staged approach will be applied to the VISION 2050 process.
6. Mr. Sasse stated that flexibility should be provided in the alternative plans. He stated that growth could be forced from communities without transit options if there is no flexibility. Mr. Yunker responded that a range of alternatives plans will be evaluated to address all of the different needs of the Region.
7. Mr. Polenske stated that the Commission did not look at an alternative that expanded transit enough to mitigate the need for additional highway capacity during development of the year 2035 regional transportation system plan. Mr. Yunker responded that the VISION 2050 process may be incorporating transit options more explicitly than in past regional plans; however, congestion still increased in sketch scenarios C, D, and E without highway capacity additions. He stated that the potential reduction in traffic congestion through transit improvements will be examined in more detail during the alternative plan phase.
8. Mr. Grisa stated that a hybrid of the sketch scenarios may be appropriate to address the needs of different areas of the Region. Mr. Yunker responded that the goal of the planning process is to work towards a plan that will accommodate the needs of the entire Region.

Ms. Anderson asked if there were any additional questions or comments on the update. There were none.

REVIEW AND CONSIDERATION OF PRELIMINARY DRAFT OF VOLUME I, CHAPTER V, "TRAVEL HABITS AND PATTERNS," OF SEWRPC PLANNING REPORT NO. 55, *VISION 2050: A REGIONAL LAND USE AND TRANSPORTATION SYSTEM PLAN FOR SOUTHEASTERN WISCONSIN*

Ms. Anderson noted that the preliminary draft of Volume I, Chapter V, of the VISION 2050 plan is still under preparation. Mr. Yunker stated that the draft chapter will be reviewed by the Committees at the November 19, 2014, Joint Committee meeting. He stated the chapter will be mailed out to the members of the Committees within about a week and will be available on the [SEWRPC website](#).

PUBLIC COMMENTS

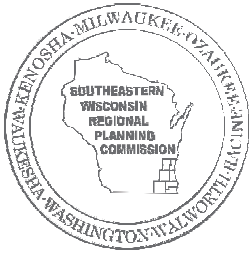
Ms. Anderson asked if there were any public comments. There were none.

ADJOURNMENT

Ms. Anderson thanked everyone for attending and asked for a motion to adjourn the meeting. Mr. Sasse moved and Mr. Saunders seconded the motion to adjourn. The meeting was adjourned at 11:15 a.m.

Respectfully submitted,

Benjamin R. McKay
Recording Secretary



WELCOME TO VISIONING WORKSHOP #3: REVIEW OF SKETCH SCENARIOS



Sketch Scenarios

"Sketch" scenarios are conceptual designs of alternative ways in which the Region could develop in the year 2050. The five sketch scenarios represent a range of possible futures for land use and transportation. These scenarios are intended to be "what if" illustrations, varying based on the location, density, and mix of new development and redevelopment, and the transportation system.

These sketch scenarios include one that continues current trends—Scenario A—and four with different levels of investment in the transportation system and different development patterns. Those four scenarios represent alternative futures which could achieve the initial vision, generally identified through the VISION 2050 Guiding Statements, which were developed using the results of the visioning activities conducted during previous steps in the VISION 2050 process.

Evaluating the Scenarios

Commission staff evaluated, as best as can be done with the conceptual nature of the scenarios, how each scenario may be expected to perform related to a number of different factors. The results are presented in a "Scorecard" (see inside of this handout) that allows the scenarios to be easily compared by their relative benefits, costs, and impacts.

Purpose of Scenario Planning

The purpose of this scenario planning effort is to begin to allow the Region to consider the consequences of following each of the alternative paths presented in the five scenarios. Exploring these conceptual, sketch-level scenarios is an intermediate step; the feedback received will be used to create more detailed alternative land use and transportation plans that will be evaluated in greater detail in a subsequent step of the process.

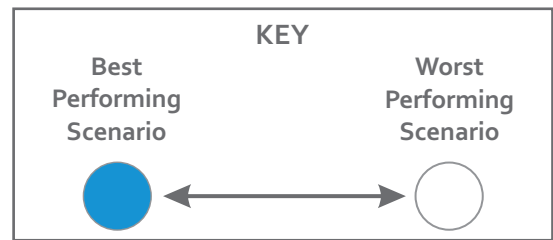
Scenarios at a Glance

Topic	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E
Housing Mix Single Family Homes vs. Condos, Apts, Townhomes	66.9% 33.1%	66.6% 33.4%	64.6% 35.4%	65.6% 34.4%	64.0% 36.0%
Density ● = Residential ● = Jobs ★ = Transit Station					
Transportation Choices					

SCENARIO SCORECARD



		Healthy Communities			Open Space	Equitable Access	
		Bicycle and walking trips	Greenhouse gas emissions	People living in walkable areas	Remaining farmland and undeveloped land	Households with affordable housing + transportation costs	Transit service quality for minority and low-income populations
Scenarios	A	<div><div></div></div> <div>328,000 Trips Per Day</div>	<div><div></div></div> <div>15.5 Million Tons Per Year</div>	<div><div></div></div> <div>786,000 People</div>	<div><div></div></div> <div>1.023 Million Acres</div>	<div><div></div></div> <div>327,000 Households</div>	<div><div></div></div> <div>Average Transit Score: 2.8</div>
	B	<div><div></div></div> <div>361,000 Trips</div>	<div><div></div></div> <div>15.4 Million Tons</div>	<div><div></div></div> <div>793,000 People</div>	<div><div></div></div> <div>1.052 Million Acres</div>	<div><div></div></div> <div>381,000 Households</div>	<div><div></div></div> <div>4.6</div>
	C	<div><div></div></div> <div>472,000 Trips</div>	<div><div></div></div> <div>15.0 Million Tons</div>	<div><div></div></div> <div>843,000 People</div>	<div><div></div></div> <div>1.069 Million Acres</div>	<div><div></div></div> <div>411,000 Households</div>	<div><div></div></div> <div>5.6</div>
	D	<div><div></div></div> <div>469,000 Trips</div>	<div><div></div></div> <div>15.1 Million Tons</div>	<div><div></div></div> <div>817,000 People</div>	<div><div></div></div> <div>1.066 Million Acres</div>	<div><div></div></div> <div>396,000 Households</div>	<div><div></div></div> <div>4.7</div>
	E	<div><div></div></div> <div>475,000 Trips</div>	<div><div></div></div> <div>15.0 Million Tons</div>	<div><div></div></div> <div>849,000 People</div>	<div><div></div></div> <div>1.069 Million Acres</div>	<div><div></div></div> <div>420,000 Households</div>	<div><div></div></div> <div>5.6</div>



Costs		Mobility				
Cost of supporting new development to local governments	Average annual transportation system investment	Congestion	Vehicle miles of travel per capita	Job/housing balance	Access to transit	Access to high quality transit
 \$538 Million Per Year	 \$800 Million Per Year	 291 Congested Miles	 8,800 Miles Per Year	 523,000 HHs in balanced areas	 991,000 People 688,000 Jobs	 0 People 0 Jobs
 \$536 Million	 \$1.26 Billion	 272 Miles	 8,700 Miles	 530,000 Households	 1,225,000 People 927,000 Jobs	 0 People 0 Jobs
 \$520 Million	 \$1.50 Billion	 363 Miles	 8,400 Miles	 544,000 Households	 1,327,000 People 970,000 Jobs	 453,000 People 423,000 Jobs
 \$528 Million	 \$1.32 Billion	 374 Miles	 8,500 Miles	 555,000 Households	 1,288,000 People 975,000 Jobs	 84,000 People 93,000 Jobs
 \$514 Million	 \$1.58 Billion	 366 Miles	 8,400 Miles	 542,000 Households	 1,373,000 People 1,013,000 Jobs	 514,000 People 480,000 Jobs

See back for criterion descriptions.

Scorecard Criteria Explanations

Bicycle and walking trips: an estimate of the total daily non-motorized trips for transportation purposes only (does not include recreational trips); varies between scenarios based on density and the level of bicycle accommodation.

Greenhouse gas emissions: an estimate of annual greenhouse gas emissions produced in the Region from mobile sources (cars, trucks, buses, etc.) and homes. Emissions are measured in CO₂ equivalency.

People living in walkable areas: an estimate of walkability (the ease by which people can walk to various destinations in an area) for residents; considers variation in household density and intersection density, with a baseline for existing walkability estimated using data from Walk Score®.

Remaining farmland and undeveloped land: an estimate of the land that would remain as farmland or undeveloped; varies between scenarios based on location and density of jobs and households.

Households with affordable housing + transportation costs: an estimate of the number of housing units affordable at the household median income, based on combined transportation costs and housing costs (45 percent of income or less is considered affordable); varies between scenarios based on residential density and transit service quality; baseline existing data provided by the Center for Neighborhood Technology.

Job/housing balance: an estimate of the balance between jobs and households in communities throughout the Region; varies between scenarios based on location and density of jobs and households.

Transit service quality for minority and low-income populations: an estimate of transit service quality in areas with concentrations of minority and low-income populations in the Region; varies between scenarios based on amount, frequency, and speed of transit service in locations with concentrations of minority and low-income populations.

Cost of supporting new development to local governments: an estimate of select local government operating and capital costs (annualized; in year 2014 dollars; excludes education costs) for new residential development; varies between scenarios by the number of single-family and multi-family housing units; baseline existing data provided by the National Association of Home Builders.

Average annual transportation system investment: an estimate of operating, maintenance, and capital costs (annualized; in year 2014 dollars) of arterial streets/highways, transit, and bicycle facilities; varies between scenarios based on types and quantities of transportation infrastructure and services.

Congestion: an estimate of the degree of traffic congestion on arterial streets and highways, measured in centerline miles experiencing moderate, severe, or extreme congestion; congestion categories vary based on level of service, travel speed, and operating conditions.

Vehicle miles of travel per capita: an estimate of the average annual vehicle miles of travel in the Region per Region resident; varies between scenarios based on the predicted number and length of vehicle trips.

Access to transit: an estimate of the number of residents with access to fixed-route transit and the number of jobs accessible by fixed-route transit; service area defined as being within 1/4 mile of a fixed-route transit stop.

Access to high quality transit: an estimate of the number of residents with access to high quality transit and the number of jobs accessible by high quality transit; transit service is considered to be high quality if it has its own right-of-way (bus rapid transit, light rail, or commuter rail); service area defined as being within 1/2 mile of a high quality transit stop.