

REVISED DRAFT

VISION 2050 PLAN OBJECTIVES AND ALTERNATIVE PLAN EVALUATION CRITERIA

Presented below are a series of VISION 2050 plan objectives and associated criteria proposed to be measured for evaluating the VISION 2050 alternative land use and transportation system plans. Plan objectives are specific goals or ends that guide the preparation and evaluation of alternative land use and transportation system plans, and would be the desired outcome of the VISION 2050 recommendations. Criteria serve as specific measures that quantify the extent to which each alternative plan meets each objective, and will be used to evaluate and compare the alternative plans.

Healthy Communities

- ▶ **Objective 1.1:** Vibrant, walkable neighborhoods that contribute to the Region's distinct character.
 - ↳ **Criterion 1.1.1:** Number of people living in walkable areas
 - ↳ **Criterion 1.1.2:** Population density
 - ↳ **Criterion 1.1.3:** Employment density
- ▶ **Objective 1.2:** Active transportation options that encourage healthy lifestyles.
 - ↳ **Criterion 1.2.1:** Bicycle level of service
- ▶ **Objective 1.3:** Compact urban development and limited rural development that maximize open space and productive agricultural land.
 - ↳ **Criterion 1.3.1:** Remaining farmland and undeveloped land
 - ↳ **Criterion 1.3.2:** Impacts to natural resource areas
- ▶ **Objective 1.4:** Environmentally-sustainable development and transportation that minimize the use of nonrenewable resources and adverse impacts on the Region's natural environment, including biodiversity, air, and water.
 - ↳ **Criterion 1.4.1:** Preservation of areas with high groundwater recharge potential
 - ↳ **Criterion 1.4.2:** Impervious surface
 - ↳ **Criterion 1.4.3:** Energy use

- ↳ **Criterion 1.4.4:** Greenhouse gas emissions and other air pollutants
- ▶ **Objective 1.5:** A transportation system that minimizes disruption of neighborhood and community development, including adverse effects on the property tax base.
 - ↳ **Criterion 1.5.1:** Homes, businesses, land, and parkland acquired
- ▶ **Objective 1.6:** Safe and secure travel environments that minimize loss of life, injury, and property damage.
 - ↳ **Criterion 1.6.1:** Crashes by mode

Equitable Access

- ▶ **Objective 2.1:** Benefits and impacts of investments in the Region’s transportation system should be shared fairly and equitably and reduce disparities between white and minority populations.
 - ↳ **Criterion 2.1.1:** Benefits/impacts to minority and low-income populations
- ▶ **Objective 2.2:** Affordable transportation and housing that meet the needs and preferences of current and future generations.
 - ↳ **Criterion 2.2.1:** Households with affordable housing + transportation costs
- ▶ **Objective 2.3:** Reduce job-worker mismatch.
 - ↳ **Criterion 2.3.1:** Areas with a job-worker mismatch

Costs and Financial Sustainability

- ▶ **Objective 3.1:** A land development pattern and transportation system that support economic growth and a globally-competitive economy.
 - ↳ **Criterion 3.1.1:** Impact of the distribution of growth on property values
- ▶ **Objective 3.2:** A financially-sustainable transportation system that minimizes life-cycle capital and operating transportation costs.
 - ↳ **Criterion 3.2.1:** Average annual transportation system investment
- ▶ **Objective 3.3:** Transportation options that minimize private transportation costs.
 - ↳ **Criterion 3.3.1:** Private transportation costs per capita
 - ↳ **Criterion 3.3.2:** Per household cost savings of streets and highways delay reduction
 - ↳ **Criterion 3.3.3:** Per household cost savings of transit delay reduction

- ▶ **Objective 3.4:** Urban development that can be efficiently served by transportation, utilities, and public facilities.
 - ↳ **Criterion 3.4.1:** Cost of supporting new development to local governments

Mobility

- ▶ **Objective 4.1:** A balanced, integrated, well-connected transportation system that provides choices among transportation modes.
 - ↳ **Criterion 4.1.1:** Trips per day by mode
 - ↳ **Criterion 4.1.2:** Vehicle miles of travel
 - ↳ **Criterion 4.1.3:** Vehicle miles of travel per capita
- ▶ **Objective 4.2:** Reliable, efficient, and universal access to employment centers, educational opportunities, services, and other important places.
 - ↳ **Criterion 4.2.1:** Travel time to important places by mode
 - ↳ **Criterion 4.2.2:** Access to park-ride facilities
 - ↳ **Criterion 4.2.3:** Access to health care facilities
- ▶ **Objective 4.3:** Well-maintained transportation infrastructure.
 - ↳ **Criterion 4.3.1:** Pavement condition
 - ↳ **Criterion 4.3.2:** Transit fleet condition
- ▶ **Objective 4.4:** An acceptable level of service on the transportation system.
 - ↳ **Criterion 4.4.1:** Congestion on arterial streets and highways
 - ↳ **Criterion 4.4.2:** Travel time delay
 - ↳ **Criterion 4.4.3:** Average trip times
- ▶ **Objective 4.5:** Fast, frequent, and reliable public transit services that maximize the people and jobs served.
 - ↳ **Criterion 4.5.1:** Access to transit
 - ↳ **Criterion 4.5.2:** Access to fixed-guideway transit
 - ↳ **Criterion 4.5.3:** Transit service quality
- ▶ **Objective 4.6:** Convenient, efficient, and reliable movement of goods and people.
 - ↳ **Criterion 4.6.1:** Transportation reliability
 - ↳ **Criterion 4.6.2:** Congestion on the WisDOT Priority Freight Network

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POTENTIAL EVALUATION CRITERIA TO BE USED TO ESTIMATE THE IMPACTS AND BENEFITS OF THE VISION 2050 ALTERNATIVE REGIONAL LAND USE AND TRANSPORTATION PLANS ON MINORITY AND LOW-INCOME POPULATIONS IN SOUTHEASTERN WISCONSIN

Impacts of Arterial Street and Highway System

- **Effect of Widenings and New Facilities** – Comparison of the freeway and surface arterial street capacity expansion—new facilities and reconstruction of existing roadways with additional traffic lanes—associated with each alternative plan and areas of concentrations of minority and low-income populations to determine whether any area of the Region, including areas of minority and low-income populations, disproportionately bears the impact of the identified capacity improvement and associated property acquisition. This comparison would include an evaluation of the census blocks with estimated property acquisition as a result of the identified arterial street and highway capacity expansion for each alternative to determine whether the residences and businesses which were estimated to need to be acquired were not disproportionately located in areas with above county or regional averages of minority or low-income populations.

- **Proximity to Freeways** – Evaluation of the characteristics of the population located within a buffer (one-quarter mile) to the existing freeways and freeway segments identified for capacity expansion to determine whether there is an over-representation of minority and low-income populations in areas located in proximity to freeways proposed to be widened.

- **Air Pollution** – Assessment of whether there would be an expected disproportionate impact on minority and low-income populations with respect to transportation-related air pollution.

Benefits of Arterial Street and Highway System

- **Improved Driving Accessibility to Jobs and Other Activities** – Evaluation of the accessibility provided by the arterial street and highway element of the alternative plans to employment and major activity centers to determine whether they would result in improvements, and whether minority and low-income populations would benefit from these improvements.

- **Reduced Congestion and Improved Safety** – Comparison of residual traffic congestion and the functional improvements identified for each alternative to areas of concentrations of minority and low-income populations to determine the extent to which they receive benefits—such as improved accessibility and improved safety—from the alternative plans. As part of this

comparison, select-link analysis, or other method, would be performed to determine whether minority and low-income populations would be expected to utilize the segments of arterial streets and highways identified as being functionally improved.

Benefits of Transit System

- **Populations to be Served by Transit** – Evaluation of the characteristics of the population located within the service area of each of the alternative total public transit systems to determine whether areas of concentrations of minority and low-income populations are located within the planned transit service area.
- **Improved Transit Service** – Evaluation of the characteristics of the populations that would benefit from the transit service improvement and expansion associated with each alternative, including within the service area of express and rapid transit systems, areas receiving improved frequency of transit service, and within service areas of new local transit service. This evaluation would be done to determine which areas of the Region—particularly areas having concentrations of minority and low-income populations—would be receiving the most benefit from the proposed improvements.
- **Improved Transit Accessibility to Jobs and Other Activities** – Evaluation of the accessibility provided by the public transit element of the alternative plans to employment and major activity centers to determine whether they would result in improvements, and whether the minority and low-income populations of the Region would benefit from these improvements.
- **Comparing Improved Accessibility for Transit and Driving** – Comparison of the improvements in accessibility under the transit element of each alternative plan to the improvements in accessibility under the highway element of each alternative plan to determine whether the transit element may be expected to result in more increases in transit accessibility to jobs than the highway element may be expected to result in increases in highway accessibility to jobs.

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**DESCRIPTIONS OF POTENTIAL CRITERIA FOR
 EVALUATING VISION 2050 ALTERNATIVE PLANS**

Table 1 below provides brief descriptions of the criteria proposed to be measured for evaluating the VISION 2050 alternative land use and transportation system plans. Following the table of criteria descriptions, Table 2 describes discussions of several important topic areas that would be prepared to assist in comparing and evaluating the alternative plans. These discussions, as appropriate, would draw from the results of measuring various evaluation criteria. In addition to the criteria and discussions, population and employment by subarea and residential development by unit type would be presented to aid in comparison of the alternative plans.

TABLE 1: CRITERIA DESCRIPTIONS

Healthy Communities

No.	Criterion	Criterion Description
1.1.1	Number of people living in walkable areas	Estimates of the number of residents and the proportion of the Region in walkable areas in 2050. The walkability of an area is scored on a scale of 0 to 100, with greater than 50 considered "walkable". Scores are based on pedestrian friendliness metrics (such as population density, block length, and intersection density) and walking distance to amenities (such as schools, parks, retail services, and employment).
1.1.2	Population density	Estimates of total population per square mile of developed land for the Region in 2010 and 2050 and of population per square mile of developed land for new residential development in the Region through 2050.
1.1.3	Employment density	Estimates of total jobs per square mile of developed land for the Region in 2010 and 2050 and of jobs per square mile of developed land for new employment-supporting land uses in the Region through 2050.
1.2.1	Bicycle level of service	An estimate of bicyclist comfort and existing/perceived operational conditions on bicycle facilities in the Region in 2050.

No.	Criterion	Criterion Description
1.3.1	Remaining farmland and undeveloped land	Estimates of the land that would remain as total farmland, farmland with Class I or Class II soils, farmland preservation areas identified in county farmland preservation plans, or undeveloped land in 2050.
1.3.2	Impacts to natural resource areas	Estimates of the land with natural resource features that would potentially be impacted by transportation projects in the Region through 2050. Lands to include wetlands, primary and secondary environmental corridors, isolated natural areas, critical species habitats, Wisconsin Department of Natural Resources managed lands and land legacy places, and lands protected by land trusts and other non-profit natural resource conservation organizations.
1.4.1	Preservation of areas with high groundwater recharge potential	An estimate of areas with very high and high groundwater recharge potential overlapping with remaining farmland, undeveloped land, and very low density residential development in 2050.
1.4.2	Impervious surface	An estimate of the total impervious surface in the Region in 2050.
1.4.3	Energy use	Estimates of the average annual amounts of energy used by residential buildings and transportation in the Region in 2050.
1.4.4	Greenhouse gas emissions and other air pollutants	An estimate of annual greenhouse gas emissions and other air pollutants produced in the Region from mobile sources and buildings in 2050.
1.5.1	Homes, businesses, land, and parkland acquired	Estimates of the number of homes and businesses and the amount of land and parkland that would potentially be acquired for transportation projects in the Region through 2050.
1.6.1	Crashes by mode	Estimates of average annual crashes by severity (including fatalities and injuries) and by mode (including vehicle, transit, bicycle, and pedestrian crashes) in the Region in 2050.

Equitable Access

No.	Criterion	Criterion Description
2.1.1	Benefits/impacts to minority and low-income populations	Estimates of various benefits and impacts to minority and low-income populations through 2050. This will include some of the analyses that will be conducted in a future assessment of whether minority and low-income populations receive a disproportionate share of the estimated impacts—both costs and benefits—of the eventual preliminary recommended plan.
2.2.1	Households with affordable housing + transportation costs	An estimate of the total number of housing units in the Region in 2050 that are affordable at the household median income, based on combined transportation costs and housing costs (45 percent of income or less is considered affordable).
2.3.1	Areas with a job-worker mismatch	An estimate of the ratio of jobs to households in areas throughout the Region in 2050.

Costs and Financial Sustainability

No.	Criterion	Criterion Description
3.1.1	Impact of the distribution of growth on property values	Estimates of the change in property values for various geographies under different land development patterns based on the distribution of jobs and housing units added between 2010 and 2050.
3.2.1	Average annual transportation system investment	Estimates of operating, maintenance, and capital costs (annualized and in year 2014 dollars) of arterial streets/highways, transit, and bicycle facilities in 2050.
3.3.1	Private transportation costs per capita	Estimates of the typical costs (annualized and in year 2014 dollars) to individuals of driving and using transit in the Region in 2050.
3.3.2	Per household cost savings of streets and highways delay reduction	Estimates of the cost savings (average annual and average weekday) associated with reducing delay on arterial streets and highways in the Region in 2050.
3.3.3	Per household cost savings of transit delay reduction	Estimates of the cost savings (average annual and average weekday) associated with reducing delay for transit in the Region in 2050.
3.4.1	Cost of supporting new development to local governments	Estimates of select local government operating and capital costs (annualized and in year 2014 dollars) for total development in the Region in 2050 and for new development in the Region through 2050.

Mobility

No.	Criterion	Criterion Description
4.1.1	Trips per day by mode	Estimates of personal vehicle, transit, and non-motorized trips on an average weekday in 2050.
4.1.2	Vehicle miles of travel	An estimate of the average annual vehicle miles of travel in the Region in 2050.
4.1.3	Vehicle miles of travel per capita	An estimate of the average annual vehicle miles of travel in the Region in 2050 per Region resident.
4.2.1	Travel time to important places by mode	Estimates of the average travel times in 2050 from certain locations to major activity centers by automobile and by transit.
4.2.2	Access to park-ride facilities	An estimate of the accessibility of park-ride facilities in 2050.
4.2.3	Access to health care facilities	An estimate of the accessibility of health care facilities in the Region in 2050.
4.3.1	Pavement condition	Estimates of the percentages of the arterial street and highway system that are in good condition and poor condition in 2050.
4.3.2	Transit fleet condition	An estimate of the percentage of transit vehicles in the Region exceeding expected useful life in 2050.
4.4.1	Congestion on arterial streets and highways	Estimates of the degree and duration of traffic congestion on arterial streets and highways (including freeways) in the Region in 2050, measured in centerline miles experiencing moderate, severe, or extreme congestion. Reported for peak and off-peak periods.
4.4.2	Travel time delay	Estimates of system-wide travel time delay (average annual and average weekday) for all modes and by mode in 2050.
4.4.3	Average trip times	Estimates of the average trip times in 2050 for various geographies and trip types.
4.5.1	Access to transit	Estimates of the total number of residents with access to fixed-route transit and the total number of jobs accessible by fixed-route transit in the Region in 2050.
4.5.2	Access to fixed-guideway transit	Estimates of the total number of residents with access to fixed-guideway transit and the total number of jobs accessible by fixed-guideway transit in the Region in 2050. Transit service is considered to be fixed-guideway if it has its own right-of-way (bus rapid transit, light rail, or commuter rail).
4.5.3	Transit service quality	An estimate of transit quality in the Region based on the speed, frequency, and number of routes/lines serving a particular area. Reported as a regional average for the area served by fixed-route transit service.

No.	Criterion	Criterion Description
4.6.1	Transportation reliability	Estimates of the level of variability in travel times for personal vehicles and by transit for various geographies in 2050.
4.6.2	Congestion on the WisDOT Priority Freight Network	Estimates of the degree and duration of traffic congestion on the WisDOT Priority Freight Network in the Region in 2050, measured in centerline miles experiencing moderate, severe, or extreme congestion. Reported for peak and off-peak periods.

TABLE 2: DISCUSSION DESCRIPTIONS

Discussion Title	Discussion Description
Ability to accommodate demographic shifts	Discussion of the ability to accommodate expected demographic shifts based on land development and travel patterns in the Region in 2050. To include discussion on accessibility for people with disabilities.
Environmental sustainability	Discussion of the expected environmental sustainability of the alternative plans based on multiple environmental criteria. To include discussion on sustainable building practices.
Impacts to freight traffic	Discussion of impacts to freight travel of the alternative plans based on multiple travel-related criteria.
Resilience in adapting to changing fuel prices	Discussion of how each alternative plan may perform under different future fuel price assumptions.
Bicycle network connectivity	Discussion on the connectivity of and potential gaps in the Region's bicycle network.
Return on investment	Discussion of the various benefits and impacts associated with certain types of investment in each alternative plan in relation to the expected costs of those investments. Benefits and impacts expressed as estimated dollar amounts where appropriate.
Property value impact	Discussion of the change in property values associated with different land development patterns and transportation system investments. To include discussion of how compact development in built out areas can increase property tax revenues.
Impacts of technology changes	Discussion of the potential for new technologies (e.g. self-driving cars, drones, ability to work from home) to impact travel in the Region by 2050. To include identification of the likelihood and challenges related to implementation of certain technologies.
Impacts to water resources and water quality	Discussion of potential impacts of each alternative plan on the existing water resources and the quality of water in the Region.
Benefits and impacts to public health	Discussion of the potential benefits and impacts of each alternative plan on public health in the Region through 2050.
Ability to address issues related to climate change	Discussion of how each alternative plan may perform related to climate change impacts, primarily related to impacts on infrastructure due to flooding associated with more frequent heavy storm events.
Ability to connect to nearby metro areas and leverage the value of those areas	Discussion of how each alternative plan may provide better connections to nearby metro areas, such as Chicago, Madison, and the Fox Valley.
Potential for attracting residents and businesses	Discussion of how well each alternative plan would make the Region more attractive to potential residents and businesses based on multiple quality of life-related criteria.

Discussion Title	Discussion Description
Political feasibility	Discussion of the likelihood for certain development pattern and transportation improvement decisions to be made in the Region by 2050.