



# Project Prioritization Process

March 2020



# **Prioritization a System for Evaluating Transportation Plan**

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## **Overview**

This project prioritization (scoring) process is intended to assist in the selection of worthy roadway, public transportation, bicycle/pedestrian, freight, and Transportation System Management & Operations (TSMO) projects for the OKI 2050 Metropolitan Transportation Plan. OKI's project prioritization process has been in effect for many years, and cited as a "best practice" by the Federal Highway Administration. This status has been achieved by periodically evaluating the process and revising as appropriate.

The project prioritization process was reviewed, updated and approved by the OKI Executive Committee by resolution OKI 2015-26 on Sept. 10, 2015. This update reflects increased focus on a performance-based planning approach as prescribed in The Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21) and continued in the FAST Act. In preparation for this 2050 Plan, staff reviewed the process with the Board at its October 2019 meeting.

The prioritization process provides a systematic approach to ranking the numerous projects needed to be evaluated in the development of a financially constrained metropolitan transportation plan. The process makes best use of available data and points of emphasis in the federal transportation bill. Maintenance projects are not included since they are of high importance and are assumed to be part of the plan.

A numeric ranking for each project will be determined for a relative comparison with other projects. This scoring process is meant to provide information for decision-making and development of a recommended list of projects in the plan. Public input and OKI leadership will determine the final recommended list of projects.

Several criteria are evaluated in the scoring process. A description of the scoring factors for the plan is provided in the narrative that follows. A table containing the factors, measures and point values follows each section's narrative. The process consists of a process to accommodate each mode (roadway, public transportation, bike/pedestrian and freight) as well as factors common to all modes.

## Planning Factors for All Projects (55 points)

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There are seven factors that follow provide a potential of 55 points to each transportation project recommendation.

The **Environmental Justice** factor awards points to projects that will have an overall net benefit to minority and low-income population groups per Executive Order 12898 issued by President Clinton in February 1994. The basis for Environmental Justice is Title VI of the Civil Rights Act of 1964. OKI also examines a project's impact on zero-car households, elderly persons and persons with disabilities. The overall net benefit in the scoring indicates a subjective consideration of both positive and negative impacts.

When federal funds are involved there are federal guidelines that must be met to ensure that services and benefits are fairly distributed to all people, regardless of race, national origin or income, and that they have access to meaningful participation (Title 42 of the United States Code). Potential elements that could be impacted by transportation projects include, but are not limited to, travel times, division of neighborhoods and changes in noise and/or air pollution levels. Projects are awarded point values as follows:

- Positive impact            5 points
- No impact                    3 points
- Negative impact            0 points

The link between transportation and the benefits of commerce is well established. The Economic Vitality factor awards points for projects that serve to support existing, expanding or new non-retail employment centers. Projects are awarded point values based on the existing employment within ½ mile of the project as follows:

- 5000+                        10 points
- 2500 - 4999                8 points
- 1000 - 2488                6 points
- 750 - 999                    4 points
- 500 - 749                    2 points
- 0 - 499                        0 points

The **Air Quality/Energy** factor relates to continued efforts to improve the regional air quality and encourage investment in more environmentally friendly forms of fuel use. A reduction in vehicle miles of travel (VMT), vehicle hours of travel (VHT), and the use of cleaner vehicles will be considered in the allocation of up to 10 points based on anticipated reduction of vehicle emissions. A maximum score of 10 points could be awarded for projects involving a location with high average daily traffic (ADT), a high percentage of trucks, high current congestion, and a potential for a large improvement in congestion due to project implementation. Examples of potential improvements include construction of a new roadway link reducing circuitous travel (VMT reduced); additional intersection turn lanes (VHT reduced); the addition of a new bus on an existing route reducing headway (VMT and VHT reduced); or the replacement of older diesel buses with new hybrid electric buses (cleaner vehicles). Projects are awarded point values as

follows:

- Significant Impact 7 to 10 points
- Moderate Impact 4 to 6 points
- Low Impact 0 to 3 points

The **Environmental Impact score** was derived by overlaying proposed projects on the OKI Environmental Viewer, an OKI GIS tool that shows regionally significant resources. The projects were awarded more points if they did not intersect with GIS layers in the viewer. The breakdown of points awarded were as follows:

- Lowest Environmental Impact (Does not intersect environmental data) 5 points
- Lower Environmental Impact (intersects 1 layer) 4 points
- Moderate Environmental Impact (intersects 2 layers) 3 points
- Moderately High Environmental Impact (intersects 3 layers) 2 points
- High Environmental Impact (intersects 4 layers) 1 point
- Most Environmental Impact (intersects 5 layers) 0 points

The **Local Priority** factor reflects the relative importance of each project as indicated by affected communities and/or future public sponsor. It is important that OKI have a sense of the local situation and preference for solutions to transportation problems. Local communities are asked to review and prioritize all projects within their area or jurisdiction. The prioritized project listings received from public agencies (city, county, state, etc.) are used to assign high, medium or low priority. If a local priority was received from more than one agency, the average score was used and projects were awarded point values as follows:

- High priority – one agency 10 points
- Medium and high priority – two agencies 8 points
- Medium priority - one agency 6 points
- High and low priorities - two agencies 6 points
- Low and medium priorities - two agencies 4 points
- Low priority - one agency 1 point

The **Complete Streets/Multimodal/Intermodal** factor awards points based on a project's ability to include and/or enhance more than the primary mode or specifically address freight intermodal needs. If the proposed project creates new intermodal integration and connectivity, or includes design elements for more than one transportation mode up to 10 points may be obtained. An example of multimodal integration as well as a complete street improvement would be a roadway reconstruction project that creates adequate space for bicycle use, even though a formal bike path is not part of the design.

Another example would be a bus purchase by a transit operator where the specifications called for bicycle racks to be included. An example of multimodal investment is a roadway widening project that provides bus turnouts at designated bus stops, or a bus preemption feature in the traffic signal design. If a transit operator proposed a project for a park-and-ride lot/transfer center that included a linkage to an existing bike path and provided bike racks, the maximum of

10 points could be scored for this intermodal project. Projects are awarded point values as follows:

- Three or More Modes or Intermodal 5 points
- Two Mode Design 3 points
- Primary Mode Only Included 0 points

The **Corridor Study/Comprehensive Plan** recommendation factor awards up to 10 points for projects identified as high priority through a formal publicly-vetted corridor study or comprehensive planning process. This is meant to recognize the significant overall detailed planning invested in key transportation corridors. Important yet lower priority projects included in such a study or plan may be awarded five points. Projects with little or no status relative to a corridor study or a comprehensive plan will be scored zero points in this category. Projects are awarded point values as follows:

- High Priority 10 points
- Medium or Low Priority 6 points
- No Status 0 points

## Transportation Factors for Roadway Projects (45 points)

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There are eight criteria that provide a potential of 45 points to each roadway-specific transportation project recommendation.

The **Safety** factor measures the existing accident rate per hundred million vehicle miles (HMVM) for the project area. The project is assigned a safety score ranging from one to five points based upon crashes per hundred million vehicle miles (HMVM) ranging from more than 100 crashes per HMVM to more than 1000 crashes per HMVM. Projects areas with less than 100 per HMVM do not score any points on this factor. Projects are awarded point values as follows:

- More than 1000 crashes per HMVMT            5 points
- 750 to 000 crashes per HMVMT            4 points
- 500 to 750 crashes per HMVMT            3 points
- 250 to 500 crashes per HMVMT            2 points
- 100 to 250 crashes per HMVMT            1 point
- Less than 100 crashes per HMVMT            0 points

The scoring process also takes into consideration the **Impact on Safety** which assesses the extent to which the project will have a positive impact on improving the level of safety for roadway travelers. The impact on safety criterion ranges from zero to five points. New facilities will be scored based on existing routes that the project is designed to alleviate, if any. Projects are awarded point values as follows:

- High Impact                                    5 points
- Medium Impact                                3 points
- Low Impact                                     0 points

The **Average Daily Traffic (ADT) or Facility Type** criterion combines two features which are a barometer of a roadway's significance in the regional system. This combination allows for the consideration of both current volume and functional hierarchy. This combination permits the roadways with high volumes to be assigned a high score even if the facility is not high on the functional class system. ADT and functional class are both readily available data. ADT measures the current traffic volumes in the project area. The facility type is directly related to the formal designation of the federal functional classification of the roadway. A roadway must be classified as a collector or "higher" to be eligible for federal funding. High volume roadways on the interstate system will score highly (up to 10 points) and low volume local roads will be scored zero. Projects are awarded the highest point value of either data source as follows:

- 40k+ or Freeway/Expressway            10 points
- 30k+ or Principal Arterial                8 points
- 20k+ or Minor Arterial                    6 points
- 10k+ or Collector                            4 points
- Less than 10k or Local Road              0 points

**Travel Time Index (TTI)** is used to compare peak period travel speed to a free-flow travel speed.

TTI includes both recurring and incident conditions and is, therefore, an estimate of the conditions faced by travelers. It is calculated by dividing free-flow travel speed by peak period observed travel speed. For example, a roadway segment with a free-flow speed of 60 mph where the observed peak period travel speed is 48 mph would have a TTI value of 1.25. When peak period travel speed is greater than free-flow speed, TTI is recorded as 0.00, or no congestion. Projects are awarded point values based on their TTI score as follows:

- Greater than 2.0 5 points
- 1.2 to 2.0 3 points
- Less than 1.2 0 points

**2050 Level of Service (LOS)** is a measure used to determine the effectiveness of elements of transportation infrastructure. LOS is most commonly used to analyze roadways and intersections by categorizing traffic flow with corresponding safe driving conditions. The Highway Capacity Manual and American Association of State Highway and Transportation Office's (AASHTO) Geometric Design of Highways and Streets ("Green Book") descriptions for defining levels of service along with the OKI 2050 Metropolitan Transportation Plan point values for projects are:

- F = Forced or breakdown flow 5 points
- E = Unstable flow 5 points
- D = Approaching unstable flow 4 points
- C = Stable flow 3 points
- B = Reasonably free flow 2 points
- A = Free flow 1 point

**Impact on 2050 Level of Service** is the extent to which the proposed project alleviates the future level of congestion (impact on 2050 LOS) has a range of zero to five points. If the proposal does not improve the congestion at all, zero points are awarded. Any new facility will be scored based on existing routes it is designed to alleviate, if any. Projects are awarded point values as follows:

- High impact on reducing future congestion 5 points
- Medium impact on reducing future congestion 3 points
- Low or no impact on reducing future congestion 0 points

The **Freight Volumes** factor provides points for corridors with a high volume of truck traffic. This figure is based upon the percentage of truck traffic within the project area. The point scale was developed to reflect the observed distribution of truck percentages on regional roadways. Up to five points are available. Projects are awarded point values as follows:

- 12% trucks or greater 5 points
- 8% to <12% trucks 4 points
- 5% to <8% trucks 3 points
- 3% to <5% trucks 2 points
- 1% to <3% trucks 1 point
- Less than 1% trucks 0 points

Some projects have greater **Feasibility** than others due to engineering, economic or social constraints. Others may lack political or public will, right-of-way availability or other elements. The feasibility criterion is an indication of the likelihood of a project to advance to construction or implementation based on these factors. Those projects which appear to be highly feasible will be scored five points. Those projects perceived as unfeasible will score zero points. Projects are awarded point values as follows:

- Highly feasible                      5 points
- Moderately feasible                3 to 4 points
- Marginally feasible                1 to 2 points
- Not feasible                         0 points

## **Transportation Factors for Transit Projects (45 points)**

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There are four criteria that follow provide a potential of 45 points to each public transportation or transit-specific transportation project recommendation.

The **Type** factor awards points based on the type of project requesting funding. The term “type” may include but not necessarily be limited to vehicle replacement, service support, fixed facilities such as park and ride, stations or bus barns and vehicle expansion. The range reflects the importance of maintaining and supporting the existing service, an expressed goal of the OKI 2050 Metropolitan Transportation Plan, as opposed to expansion activities. Projects can receive up to 10 points in this category as follows:

- Vehicle Replacement 10 points
- Fixed Facility 8 points
- Service Support 6 points
- Vehicle Expansion 4 points
- Other 2 points

An important component of transit projects is their **Ridership Impact**. The point values reflect a project’s ability to maintain or increase ridership. A high increase in ridership will be awarded 15 points and no increase in ridership zero points. The range of points available are awarded as follows:

- Increases Ridership 15 points
- Maintains Ridership 8 points
- No Impact on Ridership 0 points

The **Safety and Security** factor awards points for the impact the project will have on safety and security. For example, a new bus or rail transit vehicle may be equipped with video and audio equipment to increase security. In addition, the new bus or rail transit vehicle may have additional safety features not found on the vehicle it is replacing. The existing safety and security problem must be documented along with a plan to address these problems. Up to 10 points are available and are awarded as follows:

- Essential to safety/security 10 points
- Significant to safety/security 8 points
- Moderately impacts safety/security 6 points
- Minimally impacts safety/security 4 points
- No impact on safety/security 0 points

**Timing and Analysis Level** reflects the importance of being able to implement a project in a timely fashion. The factor is based on the time after funding is granted. The point values for timing and analysis level are summarized as follows:

- Near term 10 points
- Mid/long term and part of local plan 5 points
- Long term and not part of local plan 0 points

## **Transportation Factors for Bike and Pedestrian Projects (45 points)**

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There are four criteria that provide a potential of 45 points to each bicycle- and/or pedestrian-specific transportation project recommendation.

**Safety** is an important consideration in project selection process. The annual average number of crashes in the project area over a five year period involving bike or pedestrians is used as the metric for assigning up to 10 points. Projects are awarded point values as follows:

- Greater than five crashes      10 points
- 3 to 5 Crashes                      6 points
- 1 to 3 Crashes                      1 points
- 0 Crashes                              0 points

The scoring process also takes into consideration the **Impact on Safety** which assesses the extent to which the project will have a positive impact on improving the level of safety for bicyclists and pedestrians. The impact on safety criterion ranges from zero to five points. New facilities will be scored based on existing routes that the project is designed to alleviate, if any. Projects are awarded point values as follows:

- High Impact                              5 points
- Medium Impact                        3 points
- Low Impact                              0 points

The OKI process seeks to give priority to regional connections. The **Facility Type** element awards up to 20 points for regional network components and two points for non-network components. Projects are awarded point values as follows:

- Regional Network Component      20 points
- Connection to Regional Network    15 points
- Local Network Component          10 points
- Non-Network Component            0 points

Some projects have greater **Feasibility** than others due to engineering, economic or social constraints. Others may lack political or public support, right-of-way availability or other elements. The feasibility criterion is an indication of the likelihood of a project to advance to construction or implementation based on these factors. Projects are awarded point values as follows:

- Highly feasible                        10 points
- Moderately feasible                  5 points
- Marginally feasible                  3 points
- Not feasible                            0 points

## Transportation Factors for Non Roadway Freight Projects (45 points)

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There are four criteria that provide a potential of 45 points to each non-roadway, freight-specific transportation project recommendation.

The **Mode Specific Traffic Flow** factor awards points based on volume to capacity (V/C) ratios in the project area. Projects greater than a 1.0 ratio indicate a high level of congestion and will receive the most available points. Projects are awarded point values as follows:

- Mode V/C >1.0 10 points
- Mode V/C .75 to <1.0 8 points
- Mode V/C .50 to <.75 6 points
- Mode V/C .25 to <.50 4 points
- Mode V/C <.25 0 points

The **Impact on Roadway Congestion** factor provides points based on the extent to which the project with work to remove large trucks from roadways in the OKI region, thereby alleviating the current level of congestion. A high reduction in trucks cannot be awarded to a project that does not document an existing congestion problem. Consideration will be given to the type of roadway facilities impacted, its current peak period capacity, congestion levels and the effect of large truck-equivalent reductions. Up to 15 points are available and awarded as follows:

- High Number of Trucks Removed per Day 15 points
- Medium Number of Trucks Removed per Day 10 points
- Low Number of Trucks Removed per Day 5 points
- No Trucks Removed per Day 0 points

The **Safety and Security** factor awards points to projects that can be linked to improving safety conditions in the project area. The existing safety and security problem must be documented along with a plan to address these problems. Up to 10 points are available and are awarded as follows:

- High Positive Impact 10 points
- Medium Positive Impact 6 points
- Low Positive Impact 2 points
- No Impact 0 points

Each non-roadway, freight transportation project included in this plan utilizes and is assigned to either a rail or water facility. The rail or water port **Facility Type** criterion for non-highway, freight projects is intended to serve a similar purpose as the hierarchy of facility types for highways. A potential of 10 points is awarded based on facility type.

In all cases a public benefit must be demonstrated.

- **Rail**

Like highways, railroad track is categorized according to function. Scoring is based on the type or category of railroad track that will be improved by the project. Main tracks handle through-train movements between and through stations and terminals, as opposed to

switching or terminal movements. Main tracks typically experience higher train volumes and train speeds of rail cars. Projects associated with main tracks will be awarded 10 points. Passing tracks or sidings are tracks used primarily along main tracks for meeting and passing trains and to ensure safe and efficient deliveries. Projects associated with passing tracks will receive up to eight points. A branch line is a railroad line that typically carries freight from its origin to a main line. Projects associated with a branch line will be awarded up to six points. Lastly, a side track, switching track, and industrial track are tracks used for the loading, unloading, and storage of rail cars. Rail yard improvements would also be included in this category. Projects associated with side tracks will be awarded up to four points.

- Mainline Track 10 points
- Passing Track 8 points
- Branch Line 6 points
- Side, Switching and Industrial Track (yard) 4 points

● **Water Port**

The water port facility type criterion is not designated similarly as roadways or rail in terms of function. There is no type or category for water ports. Therefore, the points for this criterion are awarded first, on whether the proposed project is located along or serves any navigable waterway and second, if the project is examined for direct access to road and/or rail. Up to 10 points are available and are awarded as follows:

- Located on Navigable Waterway with Direct Roadway and Rail Access 10 points
- Located on Navigable Waterway with Direct Roadway or Rail Access 6 points
- Ancillary Port Activity Serving Navigable Waterway 2 points

**Factors for Other Projects**

In some cases, OKI will receive applications for projects that do not fit the highway, transit, bike/ped or non-freight highway project definition. In these cases, the Prioritization Subcommittee will examine each application and subjectively rank the application in comparison to the highway, transit, bike/ped and non-highway freight applications received. This ranking will be accomplished through a thorough review and discussion of the application, and comparison of the estimated benefits to the region with the estimated cost of the project.