

## Appendix B: Project Scoring Process

### OVERVIEW

This scoring process is intended to assist in the selection of worthy roadway, public transportation, bicycle/pedestrian, freight, and Intelligent Transportation Systems (ITS) projects for the OKI 2040 Regional Transportation Plan. Its basis is a procedure originally adopted by the OKI Intermodal Coordinating Committee and Board of Directors to evaluate Transportation Improvement Program (TIP) and the Ohio Department of Transportation's (ODOT) Transportation Review Advisory Committee (TRAC) projects. This process provides a systematic approach to ranking the numerous projects which will need to be evaluated in the development of a financially constrained regional transportation plan. In November 2011, this process was adapted to fit the nature of the regional transportation plan and 20+ year planning horizon. Since the 2008 update of this plan, the criteria have been adjusted in relation to non-roadway freight, environmental impacts, and complete streets all of which are reflective of the current TIP scoring process. 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. The first seven apply to all projects and provide a potential of 60 points. A project is then scored under the roadway, transit or non-roadway freight sections, all of which provide a potential for another 45 points for a total possible 105 points. A description of the criteria and the OKI 2040 Regional Transportation Plan project scoring process follows. Chart summaries of all points are found in figures B-1, B-2 and B-3 and B-4 at the end of this appendix.

### OVERALL CRITERIA

There are seven criteria that follow provide a potential of 60 points to each transportation project recommendation. Figure B-1 summarizes the measures and point values for each of the overall criteria.

#### Environmental Justice

The environmental justice criterion addresses the emphasis placed on transportation impacts on minority, elderly, low income, disabled and/or zero-car household populations. Impacts could include such things as affects on travel times, division of neighborhoods, change in noise and/or air pollution, etc. which may occur as a result of project implementation. This is a subjective evaluation. Projects are awarded point values as follows:

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

## **Economic Vitality**

The economic vitality criterion awards points for projects that serve to support existing, expanding or new non-retail employment centers. Projects are awarded point values as follows:

- Projects demonstrating a significant positive impact 10 points
- Projects not demonstrating a significant positive impact 0 points

## **Air Quality**

The air quality criterion relates to continued efforts to improve the region's air quality and encourage investment in more environmentally friendly forms of fuel use. 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), 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 VMT/VHT reduction and increase cleaner vehicles 7 to 10 points
- Moderate VMT/VHT reduction and/or increase in cleaner vehicles 4 to 6 points
- Low VMT/VHT reduction and/or increase in cleaner vehicles 0 to 3 points

## **Environmental Impact**

The environmental impact criterion addresses the impact transportation projects may have on environmentally sensitive areas. Input received through environmental consultations, detailed in Chapter 4 of this Plan, informs the scores for this element. Projects are awarded point values as follows:

- Project avoids environmentally sensitive area(s) 5 points
- Any impact(s) will be mitigated 3 points
- Impact(s) will not be mitigated 0 points

## **Local Priority**

The local priority criterion 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

**Complete Streets/Multimodal/Intermodal**

The complete streets/multimodal/intermodal criterion awards points based on the project’s ability to include and/or enhance more than the primary mode or specifically address freight intermodal needs. If the proposed project facilitates 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 freight project 10 points
- Two mode design 5 points
- Primary mode only included in project proposal 0 points

**Corridor Study/Comprehensive Plan**

The corridor study/ comprehensive plan recommendation criterion awards up to 10 points for projects identified as high priority through a formal 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:

- Inclusion in study or plan as high priority 10 points
- Inclusion in study or plan as medium or low priority 5 points
- No inclusion or status provided in existing study or plan 0 points

**ROADWAY PROJECTS**

There are eight criteria that follow provide a potential of 45 points to each roadway-specific transportation project recommendation. Figure B-2 summarizes the measures and point values for each of the roadway criteria.

## Safety

The project is assigned a safety score ranging from one to five points based on the number of crashes per million vehicle miles traveled (MVMT). Projects are awarded point values as follows:

- Nine or more crashes per MVMT 5 points
- Seven or more crashes per MVMT 4 points
- Five or more crashes per MVMT 3 points
- Three or more crashes per MVMT 2 points
- Less than three crashes per MVMT 1 point

## Impact on Safety

The scoring process also takes into consideration 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 positive impact on improving safety 5 points
- Medium positive impact on improving safety 3 points
- Low or no positive impact on improving safety 0 points

## Average Daily Traffic (ADT)/Facility Type

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. 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
- 30k+ or Principal Arterial 8
- 20k+ or Minor Arterial 6
- 10k+ or Collector 4
- Less than 10k or Local 0

## Existing Congestion Level

The existing congestion level uses observed travel time and delay estimates to assign up to five points. Projects are awarded point values as follows:

- High current congestion 5
- Moderate current congestion 3
- Little or no current congestion 0

## 2040 Level of Service

2040 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 2040 Regional Transportation Plan point values for projects are:

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

## Level of Service Impact

The extent to which the proposed project alleviates the future level of congestion (impact on 2040 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
- Medium impact on reducing future congestion 3
- Low or no impact on reducing future congestion 0

## Freight Volume

The freight volumes criterion provides points for roadway projects based on percentage of truck traffic within the project area. Up to five points are awarded. Projects are awarded point values as follows:

- Twelve percent truck traffic or greater 5
- Nine percent to <12% truck traffic 4
- Six percent to <9% truck traffic 3
- Three percent to <6% truck traffic 2
- One percent to <3% truck traffic 1
- Less than 1% truck traffic 0

## Feasibility

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 issues. 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

- Moderately feasible 3 to 4
- Marginally feasible 1 to 2
- Not feasible 0

## TRANSIT PROJECTS

There are four criteria that follow provide a potential of 45 points to each public transportation or transit-specific transportation project recommendation. Figure B-3 summarizes the measures and point values for each of the transit criteria.

### Type

The type of project being sought relates to the score assigned. 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, as opposed to expansion activities. Projects can receive up to 10 points in this category as follows:

- Bus replacement 10
- Service support 8
- Fixed facility 6
- Vehicle expansion 4
- Other 2

### Ridership Impact

An important component of transit projects is their ridership impact. Investments should be oriented to at least maintaining the existing ridership, if not increasing it. The point values assigned the different measures of this criterion echo this philosophy and are awarded as follows:

- Increases ridership 15
- Maintains ridership 8
- No impact on ridership 0

### Safety/Security

The safety and security criterion awards points to projects that can be linked to improving safety conditions. 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
- Significant to safety/security 8
- Moderately impacts safety/security 6
- Minimally impacts safety/security 4
- No impact on safety/security 0

### Timing and Analysis Level

The sooner a proposal can be put in place, the sooner its impact will be felt in the region. Timing and analysis

level are the criteria used to assign a value as follows. Projects that will be implemented within five years (matches transit operator’s approximate long range planning horizon) are awarded 10 points. Improvements to, or expansion of the system, such as opening new transit hubs, that are anticipated to be implemented after five years and are included in a local planning study or transit development plan are awarded five points. Those that are anticipated to be implemented after five years and are not included in a local planning study or transit development plan are awarded zero points. The point values for timing and analysis level are summarized as follows:

- Near term (<5 years) 10
- Mid/long term and part of local plan (>5 years) 5
- Long term and not part of local plan (>5 years) 0

## NON-ROADWAY FREIGHT TRANSPORTATION PROJECTS

There are four criteria that provide a potential of 45 points to each non-roadway, freight-specific transportation project recommendation. Figure B-4 summarizes the measures and point values for each of the freight criteria.

### Mode Specific Traffic Flow

The mode specific traffic flow criterion 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
- Mode V/C .75 to <1.0 8
- Mode V/C .50 to <.75 6
- Mode V/C .25 to <.50 4
- Mode V/C <.25 0

### Impact on Roadway Congestion

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. Applicants should provide an analysis documenting how they arrived at their anticipated truck reduction value. 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
- Medium number of trucks removed per day 10
- Low number of trucks removed per day 5
- No trucks removed per day 0

### Safety/Security

The safety and security criterion 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
- Medium positive impact 6
- Low positive impact 2
- No impact 0

### Facility Type

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 ten (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
◇ Passing track	8
◇ Branch line	6
◇ Side, switching and industrial track (yard)	4

#### • 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 any navigable waterway with direct roadway and rail access	10
◇ Located on any navigable waterway with direct roadway or rail access	6
◇ Ancillary port activity serving any navigable waterway	4

**Figure B-1: Scoring Parameters for All Projects**

<b>CRITERION</b>	<b>MEASURE</b>	<b>POINT VALUE</b>
<b>Environmental Justice</b>	Positive Impact	5
	No Impact	3
	Negative Impact	0
<b>Economic Vitality</b>	Significant Enhancement	10
	No Significant Enhancement	0
<b>Air Quality</b>	Significant	7-10
	Moderate	4-6
	Low	0-3
<b>Environmental Impacts</b>	Avoids impact	5
	Impacts are mitigated	3
	Impacts are not mitigated	0
<b>Local Priority</b>	High	10
	Medium/High	8
	Medium	6
	Low/Medium	4
	Low	1
<b>Complete Streets/ Multimodal/Intermodal</b>	Three+ Modes or Intermodal	10
	Two Mode Design	5
	Primary Mode Only	0
<b>Corridor Study/ Comprehensive Plan</b>	High Priority	10
	Medium or Low Priority	5
	No Status	0

**Figure B-2: Scoring Parameters for Roadway Projects**

<b>CRITERION</b>	<b>MEASURE</b>	<b>POINT VALUE</b>
<b>Safety</b>	Nine or more crashes per MVMT	5
	Seven or more crashes per MVMT	4
	Five or more crashes per MVMT	3
	Three or more crashes per MVMT	2
	Less than three crashes per MVMT	1
<b>Impact on Safety</b>	High Impact	5
	Medium Impact	3
	Low Impact	0
<b>ADT/Facility Type</b>	40k+ or Freeway/Expressway	10
	30k+ or Principal Arterial	8
	20k+ or Minor Arterial	6
	10k+ or Collector	4
	Less than 10k or Local	0
<b>Existing Congestion Level</b>	High	5
	Moderate	3
	Little or None	0
<b>2040 Level of Service</b>	E/F	5
	D	4
	C	3
	B	2
	A	1
<b>Impact on 2040 Level of Service</b>	High Impact	5
	Medium Impact	3
	Low Impact	0
<b>Freight Volume</b>	Twelve percent Trucks or greater	5
	Nine to <12% Trucks	4
	Six to <9% Trucks	3
	Three to <6% Trucks	2
	One to <3% Trucks	1
	Less than 1% Trucks	0
<b>Feasibility</b>	High	5
	Moderate	3-4
	Marginal	1-2
	Not Feasible	0

**Figure B-3: Scoring Parameters for Transit Projects**

CRITERION	MEASURE	POINT VALUE
<b>Type</b>	Bus Replacement	10
	Service Support	8
	Fixed Facility	6
	Vehicle Expansion	4
	Other	2
<b>Ridership Impact</b>	Increase	15
	Maintain	8
	No Impact	0
<b>Safety/Security</b>	Essential	10
	Significant	8
	Moderate	6
	Minimal	4
	None	0
<b>Timing and Analysis Level</b>	Near Term	10
	Mid/Long Term and Part of Local Plan	5
	Long Term and not part of Local Plan	0

**Figure B-4: Scoring Parameters for Non-Roadway, Freight Projects**

CRITERION	MEASURE	POINT VALUE	
<b>Mode Specific Traffic Flow</b>	Mode V/C >1.0	10	
	Mode V/C .75 to <1.0	8	
	Mode V/C .50 to <.75	6	
	Mode V/C .25 to <.50	4	
	Mode V/C <.25	0	
<b>Impact on Roadway Congestion</b>	High Number of Trucks Removed/Day	15	
	Medium Number of Trucks Removed/Day	10	
	Low Number of Trucks Removed/Day	5	
	No Trucks Removed/Day	0	
<b>Safety/Security</b>	High Positive Impact	10	
	Medium Positive Impact	6	
	Low Positive Impact	2	
	No Impact	0	
<b>Facility Type</b>	<b>Rail</b>	Mainline Track	10
		Passing Track	8
		Branch Line	6
		Side, Switching and Industrial Track (yard)	4
	<b>Water Port</b>	Located on Navigable Waterway With Direct Roadway and Rail Access	10
		Located on Navigable Waterway With Direct Roadway or Rail Access	6
		Ancillary Port Activity Serving Navigable Waterway	2