

Appendix B: Project Evaluation Criteria

Part 1 – Raw Score Calculation

State of Good Repair

Addresses Guiding Principle: Satisfactorily maintain existing transportation facilities

Question 1: Does the project target facilities with poor pavement condition?

Applies to Highway Projects. All other projects receive score of 0. No or missing data receive score of -5.

Pavement Condition		Level of Service Definition				
Cracking, Rutting or Faulting	IRI	Underutilized	Good	Acceptable	Marginal	Unacceptable
Poor	Any Score	20	20	20	25	30
Fair or Good	Poor	5	10	15	15	20
Fair or Good	Fair or Good	-5	-5	0	0	0

Facilities in any poor pavement condition and identified for bicycle routes or lanes within the Active Transportation Plan: add +5 points

Question 2: Does the scope of work address poor pavement conditions?

Applies to Highway Projects. All other projects receive score of 0. No or missing data receive score of -5.

Pavement Condition		Included within Scope of Work		
Cracking, Rutting or Faulting	IRI	No work to existing pavements	Overlay	Full Reconstruction
Poor	Any Score	-20	0	50
Fair or Good	Poor	-5	30	15
Fair or Good	Fair or Good	0	20	-10

Projects that address more than 4 lane-miles of any combination of poor cracking, rutting or faulting receive additional +50 points.

Projects that provide and overlay for more than 4 lane-miles of poor IRI conditions on facilities with otherwise fair or good cracking, rutting or faulting conditions receive additional +20 points.

Question 3: Does the project target facilities with poor bridge conditions?

Applies to Highway Projects. All other projects receive score of 0.

Apply to Each Bridge within Project Limits

Bridge Condition		Level of Service Definition				
Deck, Substructure or Superstructure	Functionally Obsolete	Underutilized	Good	Acceptable	Marginal	Unacceptable
Poor	Yes	20	25	25	30	30
Poor	No	15	20	20	25	25
Fair to Good	Yes	10	10	15	20	20
Fair to Good	No	-5	-5	0	0	0

Critical flood vulnerable bridges add +10 points

Bridges on Texas State Freight Network add +10 points.

Texas State Freight Network bridges that also have substandard vertical clearances add an additional +5 points

Question 4: Does the scope of work address poor bridges?

Applies to Highway Projects. All other projects receive score of 0.

Apply to Each Bridge within Project Limits

Bridge Condition		Included within Scope of Work			
Deck, Substructure or Superstructure	Functionally Obsolete	No Work Proposed	Rehabilitate Bridge	Address Functional Obsolescence	Reconstruct Bridge*
Poor	Yes	-30	25	15	50
Poor	No	-20	20	n/a	40
Fair to Good	Yes	-10	0	25	15
Fair to Good	No	0	-15	n/a	-20

*If bridge is no longer necessary, replacement with other satisfactory facility.

Projects that eliminate bridge vulnerability to flooding receive 20 points regardless of structural condition or obsolete status.

Question 5: Does the project improve the fleet condition for public transportation vehicles?

Applies to Public Transportation Projects. All other projects receive score of 0.

Apply to each vehicle

Action	Replacement Vehicle	Score
Replace vehicle beyond ULB	New	25
Replace vehicle beyond ULB	Used with at least 7 years before reaching ULB	20
Rehab vehicle beyond ULB	n/a	10
New Service with New Vehicles	n/a	30
New Service with Used Vehicles	Used with at least 7 years before reaching ULB	15
No Action on vehicles beyond ULB	n/a	-5

Question 6: Does the project improve the condition of public transportation facilities?

Applies to Public Transportation Projects. All other projects receive score of 0.

Apply to each Facility

Either Condition Present		Action	Score
TERM Score	Percent of Elements Less than Adequate		
< 1.5	> 75%	Replace Facility	30
		Rehab Facility	-5
1.5 to 3.0	30% to 75%	Replace Facility	15
		Rehab Facility	30
> 3.0	< 30%	Replace Facility	-20
		Rehab Facility	10
New Facility or Infrastructure			30

Question 7: Does the project address traffic signal condition & communications?

Applies to Highway, Bicycle or Pedestrian Projects. All other projects receive score of 0.

Apply to each signal

Proposed Signal Work	Score
Substandard Signal Replaced or Upgraded	10
No work proposed for substandard signals	-5
No substandard signals within corridor	0

Question 8: Does the project improve the condition of existing sidewalks?

Applies to All Projects except Public Transportation Operations which receive a score of 0.

Poor Sidewalk Replaced	Score
> 2.0 miles	50
1.1 to 2.0 miles	30
0.5 to 1.0 miles	10
< 0.5 miles*	0

*Projects that replace a sufficient length of poor sidewalk to create a continuous section of good or fair sidewalk of 1 mile or greater receive +30 points.

Safety and Security

Addresses Guiding Principle: Improve the safety and security of the transportation system

Question 9: Would the scope of work reduce total crashes and/or improve overall crash severity?

Applies to Highway Projects. All other projects receive score of 0.

Service Life Crash Reduction Factor Scoring Matrix

Reduction Metric		Total Project Cost		
Total Crashes	Fatalities & Serious Injuries	More than \$25 million	\$10 to \$25 million	Less than \$10 million
More than 100	More than 50	75	100	150
More than 100	21 to 50	60	75	100
More than 100	11 to 20	40	50	75
More than 100	Less than 20	30	40	50
50 to 100	More than 10	20	30	40
50 to 100	Less than 10	15	20	30
Less than 50	More than 10	10	15	20
Less than 50	Less than 10	-5	0	0

Question 10: Are there a significant number of bicycle or pedestrian crashes within the project limits?

Applies to All Projects except Public Transportation. Public Transportation Projects receive score of 0.

Crashes since 2010: Scoring Matrix

		Total Project Cost		
Fatalities & Serious Injuries	Total Crashes	More than \$5 million	\$1 to \$5 million	Less than \$1 million
Any	More than 5	20	30	50
Any	Less than 5	15	25	35
None	More than 5	10	20	30
None	Less than 5	0	10	15
None	None	0	0	0

Projects with combination of fatalities & serious injuries greater than 5 receive an extra 25 points.

System Efficiency

Addresses Guiding Principle: Maximize the use of existing transportation facilities before system expansion

Question 11: Does the current highway facility have more capacity than is or will be needed?

Applies to Highway Projects with current traffic conditions rated as underutilized. All other projects receive score of 0.

Existing Facility	Proposed Redesign	2040 Build Traffic Conditions	Score
4 lane undivided no center turn lane	2 lanes with center turn lane and bicycle lanes	Underutilized	35
		Good	50
		Acceptable	35
		Marginal or Unacceptable	-25
Freeway with frontage roads and grade separate intersections	Boulevard with no frontage roads and at-grade intersections	Underutilized	35
		Good	60
		Acceptable	35
		Marginal or Unacceptable	-25
One-Way pairs	Convert to two-way Or Reduce total number of travel lanes	Underutilized	35
		Good	60
		Acceptable	35
		Marginal or Unacceptable	-25
Intersection with traffic signal	Roundabout	Underutilized	35
		Good	50
		Acceptable	35
		Marginal or Unacceptable	-25

Question 12: For underutilized corridors, does the project reduce the amount of pavement or bridge structures that will need to be maintained while still providing adequate future level of service?

Applies to Highway Projects with current traffic conditions rated as underutilized and 2040 build traffic conditions rated as acceptable or better. All other projects receive score of 0.

Ft ² of Pavement Eliminated	Ft ² of Bridge Deck Eliminated		
	Less than 10,000	10,000 to 50,000	Greater than 50,000
Less than 5,000	0	10	30
5,000 to 25,000	10	20	40
25,000 to 100,000	25	50	75
Greater than 100,000	50	75	100

Question 13: Does the project leverage federal and state funds with other funding?

Applies to All Projects eligible for federal or state funds. Ineligible projects receive score of 0.

Percent Federal / State Funds	Score
100%	-25
90% to 99%	-15
80% to 89%	0
60% to 79%	10
45% to 59%	25
30% to 44%	50
Less than 30%	75

Livability

Addresses Guiding Principle: Preserve regional air quality and environmental standards

Question 14: Does the project support trips by transit or non-motorized modes as these modes have inherently less emissions?

Applies to All Projects.

Current Condition	Work Proposed	Score
Discontinuous, no sidewalks or sidewalks in fair or poor condition	Continuous Good Sidewalks on both sides	50
	Continuous sidewalks along commercial and residential landuses	20
	No or inadequate sidewalks proposed	-25
	Pedestrian provisions not appropriate per Thoroughfare Plan	0
Signalized intersection with no or inadequate provisions for pedestrians	Retrofit to include provisions for signalized pedestrian crosswalks with median refuge	10 for each intersection
	No or insufficient retrofits proposed	-10 for each intersection
	Pedestrian provisions not appropriate per Thoroughfare Plan	0
Bicycle Suitability Index rated 'Not Recommended' or worse	Bike lanes with no separation from traffic	25
	Buffered bike lanes or cycle track	40
	No provisions for bicycles	-15
Bicycle Suitability Index rated 'Difficult' or better	Bike Lanes	15
Any Bicycle Condition	Bicycle conditions worse than No Build	-30
No or inadequate bicycle or pedestrian facilities	Bicycle and pedestrian work consistent with Active Transportation Plan recommendations.	50
Existing or Proposed Transit Route with no current provisions to support transit*	Retrofit highway to include transit recommendations within thoroughfare plan	30
	No provisions for transit	-15
	Transit conditions worse than No Build	-50
No infrastructure at locations with high volume of transit demand	Install bus shelters and ADA compliant access between bus stop and important destination	30 for each bus stop
	No work proposed	-15 for each high volume location

*Assumes facility will continue to be a transit route through 2045.

Question 15A: Is the project needed to support greenfield development?

Applies to All Projects.

Applies to the beginning or end of project limits whichever has the lower density

2015 TAZ Population + Employment Density (persons + total employees / mile ²)	Score
Greater than 5000	75
2001 to 5000	40
1001 to 2000	25
501 to 1000	0
200 to 500	-20
Less than 200	-30

Question 15B: Will projected development in 2045 require additional infrastructure?

Applies to All Projects.

Applies to the beginning or end of project limits whichever has the lower density

2045 TAZ Population + Employment Density (persons + total employees / mile ²)	Score
Greater than 5000	75
2001 to 5000	40
1001 to 2000	25
501 to 1000	0
200 to 500	-20
Less than 200	-30

Question 16: Could the project have a negative impact to sensitive natural habitats important historical / cultural sites or the human environment that would be difficult or expensive to mitigate?

Applies to All Projects.

Likely impacts receive score reduction of 50 points. Somewhat likely impacts receive score reduction of 25 points.

Impact Area
Wetlands
Cemeteries / Gravesites
Historical or Religious Significance
Park or Recreation Area
Endangered Species Habitat
Residential Landuse Acquisition

Question 17: Might the project provide positive impacts to the human environment or help mitigate / offset previous negative environmental impacts?

Applies to All Projects.

Likely impacts receive 50 points. Somewhat likely impacts receive 25 points.

Impact Area
Supports energy usage from non-fossil fuels
Addresses an existing deficiency in stormwater drainage
Reduces road noise impacts
Scope of work includes vegetative landscaping using native plants
Scope of Work includes public art from artists residing within McLennan County

Mobility

Addresses Guiding Principle: Support regional freight movement and economic development efforts

Question 18: Does the project address current or future unacceptable traffic conditions?

Applies to Highway Projects. Projects that create an unacceptable condition receive score of -25. All other projects receive score of 0.

Traffic Condition by Project Cost Matrix

Traffic Condition		Total Federal or State Funds Requested		
2015	2040 Build	More than \$50 million	\$20 to \$49 million	Less than \$20 million
Any Level	Unacceptable	35	50	50
Unacceptable	Marginal	45	70	90
Unacceptable	Acceptable or Good	75	100	150
Marginal	Marginal, Acceptable or Good	60	80	100
Acceptable or Good	Marginal, Acceptable or Good	50	70	80
Underutilized	Marginal, Acceptable or Good	35	60	70
Any Level	Underutilized	Ineligible for further consideration		
No Existing Facility	Unacceptable or Marginal	35	50	60
No Existing Facility	Acceptable or Good	60	75	100
No Existing Facility	Underutilized	Ineligible for further consideration		

Criterion for Additional Points

Criterion	Additional Criteria	Points
Top 200 of TTI most congested list	None	50
Between top 200 and 500 of TTI most congested list	None	30
Texas State Freight Network	2040 build condition = Marginal, Acceptable or Good	50
Facility identified as a regional freight connector	None	25
Fatal or Serious Injury Reduction Greater than 25	None	20
Total Crash Reduction Greater than 50	2040 build condition = Marginal, Acceptable or Good	20

Question 19: Does the project address design deficiencies along the Texas State Freight Network?

Applies to Highway Projects on Facilities identified on the Texas State Freight Network. All other projects receive score of 0.

Each corrected deficiency identified below scores 30 points. Each deficiency not corrected results in a reduction of 20 points.

Deficiency
Bridge vertical clearance over highway less than 18 feet
Bridge vertical clearance over railroad less than 23 feet
Weight restricted pavement or bridge accommodating less than 80,000 lbs
Curve radii insufficient for loads up to 116 feet in length
Lane widths less than 12 feet
No or substandard shoulders on bridge or pavement

Note: for Interstate or Freeway class facilities, frontage roads are not evaluated.

Question 20A: Does the project address railroad grade crossing concerns with automobiles?

Applies to Highway Projects at railroads with more than 10 trains per day. All other projects receive score of 0.

Current Facility	Proposed Facility	2040 Build Traffic Condition	Score
No Existing Facility*	At Grade Crossing	Acceptable or Better	-30
		Marginal or Unacceptable	-50
	Overpass	Acceptable or Better	20
		Marginal or Unacceptable	40
Existing At Grade Crossing	No Proposed Change	Acceptable or Better	-20
		Marginal or Unacceptable	-50
	Overpass	Acceptable or Better	30
		Marginal or Unacceptable	60
	Quiet Zone Infrastructure Upgrades***	Any	45
Existing Overpass with Substandard Vertical Clearance**	No Proposed Change	Any	-30
	Replace or Elevate Bridge to meet current standard	Any	30

*Note: Projects proposing a temporary at grade crossing while an overpass is constructed, receive a deduction of 10 points from the overpass score.

**Vertical clearances of less than 23 feet above the rails is considered substandard.

***Regardless of whether or not a quiet zone is established.

Question 20B: Does the project address railroad grade crossing concerns with bicycles or pedestrians?

Applies to Bicycle or Pedestrian Projects at railroads with more than 10 trains per day. All other projects receive score of 0.

Current Facility	Proposed Facility	Score
No Existing Facility*	At Grade Crossing	-30
	Overpass	20
Existing At Grade Crossing	No Proposed Change	-20
	Overpass	30
	Quiet Zone Infrastructure Upgrades**	45

*Note: Projects proposing a temporary at grade crossing while an overpass is constructed, receive a deduction of 10 points from the overpass score.

**Regardless of whether or not a quiet zone is established.

Equity

Addresses Guiding Principle: Improve access to economic opportunities and essential services

Question 21: Does the project provide a benefit to an EJ protected zone?

Applies to All Projects.

Project limits begin, end or provide access to an EJ protected zone	Score
Yes	20
No	-20

Question 22: Does the project provide better connectivity between high employment zones and EJ protected zones?

Applies to All Projects with limits that begin, end or provide access to an EJ protected zone.

All other projects receive a score of 0.

Transportation Mode Targeted by Project	Lesser Condition along Project Limits		Score
	EJ Population	Total Employment	
Automobile Only	Any	Any	0
Public Transportation, Bicycle or Pedestrian	Less than 5,000	Less than 1,000	20
	5,000 to 10,000	1,000 to 5,000	40
	Greater than 10,000	Greater than 5,000	75

Part 2 – Calculation of Final Scores

Once raw scores have been calculated for each project, scores are then normalized on a 100 point scale for each guiding principle. For each guiding principle, projects may have a maximum score of 100 but may also have a minimum score of -100. Some projects, however, had a very high raw score that when normalized, gave all other projects a poor score. As a result, the following table was applied when normalizing evaluation scores. Projects scoring above the maximum raw score receive the maximum score for that principle. (Example: A project scoring 450 points for principle 4 – livability, would receive the maximum raw score of 300 which results in a final score of 100).

Guiding Principle	Maximum Raw Score	Lowest Raw Score
1 – State of Good Repair	200	-200
2 - Safety	200	-200
3 - Efficiency	100	-100
4 - Livability	300	-300
5 – Freight and Economic Development	200	-200
6 - Equity	100	-100

As a result, the maximum total score a project can receive is 600 and the lowest total score is -600. Since each principle is considered important, each principle is weighted equally.