

**Attachment B**

**H-GAC 2013-2016  
TIP PROJECT EVALUATION CRITERIA**

**May 16, 2012**

## **ATTACHMENT B**

### **PROJECT READINESS CRITERIA FOR THE 2013-2016 TIP FOR ALL PROJECTS**

The TIP is the implementation device for the Regional Transportation Plan. It details an implementation schedule for the first four years of projects in the RTP. Therefore, one of the important criteria for selection as a TIP project is “readiness”. Readiness refers to the ability of a project to be ready for contract letting in the year in which it is programmed in the TIP. For federal-aid projects “readiness” is largely determined by the status of the following activities:

#### **Environmental Clearance and Permits**

All federal-aid projects must complete the National Environmental Protection Act (NEPA) process. Environmental clearance includes a categorical exclusion (CE), a finding of no significant impacts (FONSI), or a record of decision (ROD). In addition, all permits must be secured including railroad permits and Army Corps of Engineers permits. The deadlines for environmental clearance and permits are shown in Table 1.

#### **Plans, Specifications & Estimates (P, S & E)**

The Plans, Specifications and Estimate (PS&E) package involves the complete check and coordination of all the plan elements, a review and coordination of the specifications used to control the work and an up to date estimate of the bid items, quantities and unit prices. TxDOT requires plan submittals for 30%, 60%, 90% and 100% review. The deadline for 30% plan submittals is shown in Table 1.

#### **Rights-of-Way Acquisition**

Because right-of-way acquisition is potentially litigious and time consuming, a significant amount of right-of-way should have already been acquired for projects that will require additional right-of-way. Significant is defined to mean that at a minimum, rights-of-way should be acquired to the point that contract activities could proceed without interruption even if there are remaining parcels needed at the time of contract letting. The deadline for significant rights-of-way acquisition is shown in Table 1.

#### **Utility Coordination**

The identification of possible utility conflicts and coordination of their resolution is a critical path item for successful and timely project delivery. Because utility adjustments/relocations can be time consuming and costly, project sponsors should have begun the utility coordination process prior to submitting projects for consideration. Sponsors must identify the entity that will perform any needed utility adjustments and how those adjustments will be paid for as part of their application.

#### **Transfers to Federal Transit Administration**

Surface Transportation Program – Metro Mobility and Congestion Mitigation/Air Quality program funds may be transferred from Federal Highway Administration accounts to Federal Transit Administration (FTA) accounts. In order to be considered for inclusion in the TIP for a transfer of funds to the FTA, proposed projects must be part of a previously approved grant, covered under an existing Letter of No Prejudice issued by the Federal Transit Administration, or have final federal environmental clearance

## ATTACHMENT B

approved by FTA per the deadlines outlined in Table 1. In addition, FTA transfers must be initiated no later than the last Friday in April of the fiscal year in which the funding to be transferred has been programmed in the TIP. FTA transfers are considered initiated when H-GAC receives a written communication from the project sponsor that the project grant application has been prepared to the satisfaction of the FTA and is ready for funds to be received from the Federal Highway Account.

### Local Commitment Documentation

Applicants are required to supply evidence of local government and financial support for projects proposed. Evidence of support may be in the form of council/court resolutions or letters from local government officials with executive control over the applicable budget line item or regulatory approval process (i.e. plan review) should such authority be delegated by the council/court. In no case will H-GAC make a project funding recommendation without the support and concurrence of the local government or agency responsible for the infrastructure being improved. Documentation of financial support includes capital improvement programs or other relevant capital budget documentation identifying specific budget line items for projects proposed. The documentation of local commitment shall be supplied at the time of project submittal.

### Air Quality Conformity Requirements

Applicants must submit project applications consistent with the metropolitan transportation plan (currently the 2035 Regional Transportation Plan Update) and finding of conformity with the Clean Air Act and the requirements of the State Implementation Plan for the Houston-Galveston ozone nonattainment area. Project applications will not be considered if the proposed improvements would require a new air quality conformity determination.

**Table 1. Project Development Deadlines**

<b>TIP Year</b>	<b>Deadline for 30% P, S&amp;E</b>	<b>Deadline for Environmental Clearance</b>	<b>Deadline for ROW Acquisition and Environmental Permits</b>	<b>Deadline to initiate FTA transfer</b>
<b>2013</b>	<b>12/31/11</b>	<b>3/1/12</b>	<b>8/31/12</b>	<b>4/26/13</b>
<b>2014</b>	<b>12/31/12</b>	<b>3/1/13</b>	<b>8/31/13</b>	<b>4/25/14</b>
<b>2015</b>	<b>12/31/13</b>	<b>3/1/14</b>	<b>8/31/14</b>	<b>4/24/15</b>
<b>2016</b>	<b>12/31/14</b>	<b>3/1/15</b>	<b>8/31/15</b>	<b>4/22/16</b>

**ATTACHMENT B**

**SECTION 1**

**ROADWAY/MOBILITY  
(NON-ITS) PROJECTS  
EVALUATION CRITERIA**

## Roadway/Mobility (Non-ITS) Projects

<b>PLANNING FACTORS</b>	<b>50%</b>
<b>BENEFIT/COST</b>	<b>50%</b>

### Planning Factors - Roadway/Mobility (Non-ITS)

<b>CONGESTION RELIEF</b>	<b>20 PTS</b>	Relieves Bottleneck, Fills Gap, ITS Component.
<b>REGIONAL IMPACT</b>	<b>20 PTS</b>	NHS, Major Corridor, Environmental Justice, Economic Development, Connects To Intermodal Terminal.
<b>MOBILITY &amp; AIR QUALITY</b>	<b>20 PTS</b>	Ped/Bike, Land-Use, Multimodal, Corridor Planning.
<b>SAFETY &amp; SECURITY</b>	<b>20 PTS</b>	Evacuation Route, High Crash Risk.
<b>ACCESS MANAGEMENT</b>	<b>20 PTS</b>	Managing traffic growth with raised medians, Smart Street concepts, consolidated driveways.

### Benefit/Cost Methodology - Roadway/Mobility (Non-ITS)

	<b>B/C Methodology</b>	<b>CMAQ Eligibility</b>
<b>Category:</b> Mobility <b>Project Type(s):</b> Roadway - Added Capacity <b>Data:</b> 2015 and 2035 Network Effects (Vehicle Hours of Travel and Travel Speeds) and Projected Facility Volumes <b>Source:</b> H-GAC 2035 Regional Travel Demand Model	<ol style="list-style-type: none"> <li>VHT savings grow from 2015 through 2035, or until facility reaches capacity</li> <li>2015-2035 VHT benefits monetized and discounted to 2012.</li> </ol>	<i>HOV Facilities Only</i> <ol style="list-style-type: none"> <li>2015 VHT savings and travel speed improvements used to estimate emissions reductions using MOSERS Chapter 4</li> </ol>
<b>Category:</b> Mobility <b>Project Type(s):</b> Roadway - Reconstruction/Rehabilitation <b>Data:</b> n/a <b>Source:</b> Sponsor	<i>Project evaluation based on planning factors only.                      Willing to examine sponsor provided data on pavement condition impacts on travel time</i>	<i>Not Applicable (Not CMAQ Eligible)</i>
<b>Category:</b> Mobility <b>Project Type(s):</b> Roadway - TSM (Intersection Improvements, Roadway Grade Separations), Roadway - Access Management <b>Data:</b> 2015 and 2035 Projected Facility Volumes and Travel Speeds <b>Source:</b> H-GAC 2035 Regional Travel Demand Model	<ol style="list-style-type: none"> <li>VHT savings calculated using TTI's delay lookup tables</li> <li>VHT savings grow from 2015 through 2035, or until facility reaches capacity</li> <li>2015-2035 VHT benefits monetized and discounted to 2012.</li> </ol>	<ol style="list-style-type: none"> <li>2015 VHT savings and travel speed improvements used to estimate emissions reductions using MOSERS Chapter 7, as appropriate</li> </ol>

**ATTACHMENT B**

**2013-2016 TIP Call For Projects  
Project Evaluation Criteria and Methodology**

<p><b>Category:</b> Mobility  <b>Project Type(s):</b> Roadway – TSM (Auxiliary Lanes)  <b>Data:</b> (a) Estimated Capacity Increase (b) 2015 and 2035 Projected Facility Volumes and Travel Speeds  <b>Source:</b> (a) Florida DOT, (b) H-GAC 2035 Regional Travel Demand Model</p>	<ol style="list-style-type: none"> <li>1. Travel time savings grow from 2015 through 2035, or until facility reaches capacity</li> <li>2. 2015-2035 VHT benefits monetized and discounted to 2012.</li> </ol>	<ol style="list-style-type: none"> <li>1. 2015 travel speed improvement used to estimate emissions reductions using EPA Mobile 6 emissions factors</li> </ol>
<p><b>Category:</b> Mobility  <b>Project Type(s):</b> Roadway – TSM (Railroad Grade Separations)  <b>Data:</b> (a) Observed RR Crossing Delay, (b) 2015 and 2035 Projected Facility Volumes and Travel Speeds  <b>Source:</b> (a) Sponsor, (b) H-GAC 2035 Regional Travel Demand Model</p>	<ol style="list-style-type: none"> <li>1. Observed delay (VHT) escalated to 2015 based on observed traffic count and projected 2015 facility volume</li> <li>2. VHT savings grow from 2015 through 2035, or until facility reaches capacity</li> <li>3. 2015-2035 VHT benefits monetized and discounted to 2012.</li> </ol>	<ol style="list-style-type: none"> <li>1. Observed delay (VHT) escalated to 2015 based on observed traffic count and projected 2015 facility volume</li> <li>2. 2015 VHT savings used to estimate emissions reductions using MOSERS 7.5</li> </ol>
<p><b>Category:</b> Mobility  <b>Project Type(s):</b> Freight Rail  <b>Data:</b> Estimated At-Grade Crossing Delay Reduction  <b>Source:</b> Sponsor</p>	<ol style="list-style-type: none"> <li>1. 20-year VHT benefits monetized and discounted to 2012.</li> </ol>	<ol style="list-style-type: none"> <li>1. VHT savings used to estimate emissions reductions using EPA Mobile 6 emissions factors</li> </ol>

**SECTION 2**

**ROADWAY/MOBILITY  
TRAFFIC OPERATIONS AND  
INTELLIGENT TRANSPORTATION SYSTEMS PROJECTS  
EVALUATION CRITERIA**

## Roadway/Mobility (ITS/Operations) Projects

<b>PLANNING FACTORS</b>	<b>75%</b>
<b>BENEFIT/COST</b>	<b>25%</b>

### Planning Factors - ITS/Operations

<b>SYSTEMS REDUNDANCY/CONTINUITY OF OPERATIONS</b>	<b>3 (18%)</b>	<b>1</b>	Will the proposed system provide redundancy of communications to allow for continuity of operations in the event of a disruption?
		<b>1</b>	Will the system allow for continuity of operations in the event of power loss?
		<b>1</b>	Will the system allow for interagency redundancy?
<b>SYSTEM MIGRATION/EXPANDABILITY</b>	<b>2 (12%)</b>	<b>1</b>	Can the system expand the regional communications network?
		<b>1</b>	Will the system NOT utilize proprietary systems that will not integrate with other systems in the region?
<b>INTEGRATION AND INFORMATION SHARING</b>	<b>4 (24%)</b>	<b>1</b>	Will the system tie into a centralized operations center?
		<b>1</b>	Will the system tie into another agency's systems to allow for the sharing of data?
		<b>1</b>	Will the system allow for potential control by another agency in the event of a primary agency's loss of system control?
		<b>1</b>	Will the system collect and provide data available for traveler information access?
<b>INCIDENT/EVENT MANAGEMENT</b>	<b>5 (30%)</b>	<b>1</b>	Will the system be an integral part to an incident management system?
		<b>1</b>	Is the system on an identified hurricane evacuation route?
		<b>1</b>	Will the system provide notification of a potential problem on the roadway system?
		<b>1</b>	Will the system give priority for emergencies?
		<b>1</b>	Will the system be used for management of special events?
<b>SYSTEM LIFECYCLE/MAINTENANCE ISSUES</b>	<b>3 (18%)</b>	<b>1</b>	Is the projected lifespan of the system being installed five (5) years or greater?
		<b>1</b>	Is the upgrade cycle of the system being installed five (5) years or greater?
		<b>1</b>	Do you have a formal maintenance program in place?
<b>TOTAL</b>	<b>17</b>	<i>Score will be refactored to 0-100 scale (each "yes" = 5.9 points on a 0-100 scale)</i>	



**ATTACHMENT B**

**2013-2016 TIP Call For Projects  
Project Evaluation Criteria and Methodology**

---

**Benefit/Cost Methodology - ITS/Operations**

---

	<b>B/C Methodology</b>	<b>CMAQ Eligibility</b>
<b>Category:</b> Mobility <b>Project Type(s):</b> Roadway – Traffic Operations/ITS <b>Data:</b> Peak period modeling network output <b>Source:</b> H-GAC ITS Deployment Analysis System (IDAS) Model	4. VHT savings calculated using IDAS model 5. 2015-2035 VHT benefits monetized and discounted to 2012.	2. 2015 VHT savings and travel speed improvements used to estimate emissions reductions using MOSERS Chapter 7, as appropriate

DRAFT

**SECTION 3**

**ALTERNATIVE MODES  
TRANSIT SERVICES AND TRANSIT CAPITAL PROJECTS  
EVALUATION CRITERIA**

## Alternative Modes - Transit Projects

<b>PLANNING FACTORS</b>	<b>50%</b>
<b>BENEFIT/COST</b>	<b>50%</b>

### Planning Factors - Transit Service

---

<b>COORDINATION</b>	<b>10 PTS</b>	Planning With Agencies Maintaining Roadways, Coordination With Connecting Transit Services
<b>ALTERNATIVE MODES/ CONNECTIONS</b>	<b>10 PTS</b>	Connecting Transit Services
<b>TIED TO ITS</b>	<b>15 PTS</b>	Contains ITS Component
<b>SAFETY &amp; SECURITY</b>	<b>15 PTS</b>	What safety measures will be taken to provide for a safe service and connections.
<b>RIDERSHIP PLAN</b>	<b>20 PTS</b>	Documentation showing expected ridership and potential growth. Backed by supporting data.
<b>NEW AND INNOVATIVE SERVICE</b>	<b>15 PTS</b>	Determine The Usefulness & Originality Of Service
<b>COMPLETE FINANCIAL PLAN</b>	<b>15 PTS</b>	Financial Strategy Required For Continuation Of Service At The End Of 3-Year Eligibility (CMAQ Funding Only)

### Planning Factors - Transit Capital

---

<b>COORDINATION</b>	<b>10 PTS</b>	Planning With Agencies Maintaining Roadways, Coordination With Connecting Transit Services
<b>ALTERNATIVE MODES/CONNECTIONS</b>	<b>10 PTS</b>	Connecting Transit Services
<b>TIED TO ITS</b>	<b>15 PTS</b>	Contains ITS Component
<b>SECURITY &amp; SAFETY</b>	<b>15 PTS</b>	What security and safety measures will be present at the facility or on the equipment?
<b>RIDERSHIP PLAN</b>	<b>20 PTS</b>	Documentation showing expected ridership and potential growth. Backed by supporting data.
<b>MAINTENANCE PLAN</b>	<b>15 PTS</b>	Documentation on how the facility will be maintained or options for expanded capacity.
<b>LOCATION AND LAND USE</b>	<b>15 PTS</b>	What attractors and generators are in the area? Other land use benefits and connections to other investments (road, ITS, bike).

**Benefit/Cost Methodology - Transit Projects**

---

	<b>B/C Methodology</b>	<b>CMAQ Eligibility</b>
<p><b>Category:</b> Alternative Modes  <b>Project Type(s):</b> Transit  <b>Data:</b> Various project related data (P&amp;R spaces, ridership, etc)  <b>Source:</b> Sponsor</p>	<ol style="list-style-type: none"> <li>1. Estimate vehicle miles traveled reduction from mode choice model, if appropriate.</li> <li>2. Estimate emissions (and if necessary) VMT reductions using MOSERS Chapters 3 and 8, as appropriate.</li> <li>3. Emission benefits extended over applicable project life, monetized and discounted to 2012.</li> </ol>	

DRAFT

**SECTION 4**

**ALTERNATIVE MODES  
PEDESTRIAN/BICYCLE AND LIVABLE CENTERS INITIATIVE PROJECTS  
EVALUATION CRITERIA**

## Alternative Modes – Pedestrian/Bicycle and Livable Centers Initiative (LCI) Projects

PLANNING FACTORS	75%
BENEFIT/COST	25%

### Planning Factors – Pedestrian/Bicycle

CONNECTIVITY	45 PTS	15 PTS	<b>Barrier elimination</b> (facility removes a barrier or provides a connection that did not exist previously)
		10 PTS	<b>Land use connections</b> (to existing facilities such as schools, community facilities, residential, employment centers, etc.)
		10 PTS	<b>Ped/Bike Facility Connections:</b> <ul style="list-style-type: none"> <li>• <b>10 points</b> if adjacent to existing ped/bike facilities</li> <li>• <b>5 points</b> if pilot or first-time facility (no other facility of this type exists within a jurisdiction or is within a 5-mile radius of the proposed facility).</li> </ul>
		10 PTS	<b>Transit connections<sup>1</sup> within .5 miles of project:</b> <ul style="list-style-type: none"> <li>• <b>10 points</b> if project directly links to a transit connection or is within .25 miles.</li> <li>• <b>5 points</b> if a transit connection is within .26 to .5 miles of proposed project.</li> <li>• <b>3 points</b> if project demonstrates a potential for future connection to a transit system</li> </ul>
DESIGN	20 PTS	15 PTS	<b>Project meets or exceeds AASHTO<sup>2</sup> design guidelines for pedestrian and/or bicycle facilities<sup>3</sup>:</b> <ul style="list-style-type: none"> <li>• <b>15 points</b> if project “exceeds” recommended design guidelines<sup>4</sup></li> <li>• <b>10 points</b> if project “meets” the recommended design guidelines</li> </ul>
		5 PTS	<b>Project provides new or maximizes existing support facilities</b> (bike racks, shade, showers facilities, lockers, benches, etc.)

<sup>1</sup> Transit connections may include: fixed route bus stop; light rail station; park and ride location; and/or transit center.

<sup>2</sup> American Association of State Highway and Transportation Officials

<sup>3</sup> “Guide for the Development of Bicycle Facilities” and the “Guide for the Planning, Design, and Operation of Pedestrian Facilities”

<sup>4</sup> For the purposes of this evaluation National Association of City Transportation Officials (NACTO) design guidelines will be considered to exceed AASHTO standards.

## ATTACHMENT B

### 2013-2016 TIP Call For Projects Project Evaluation Criteria and Methodology

<b>SAFETY</b>	<b>10 PTS</b>	<p><b>Project improves pedestrian and/or bicyclist safety :</b></p> <p>(Project sponsor must clearly define how the proposed project creates a more secure environment and/or reduces the risk or severity of crashes. Other relevant safety features should be noted)</p>
<b>EXISTING PLANS/STUDIES</b>	<b>10 PTS</b>	<p><b>Facility was identified in a locally or regionally-sponsored plan or study</b></p>
<b>FUNDING LEVERAGE</b>	<b>5 PTS</b>	<p><b>Project leverages additional funding:</b></p> <ul style="list-style-type: none"> <li>• Sponsor has committed to provide more than 20% of local match; and/or</li> <li>• Sponsor has leveraged funding through other sources to meet or exceed the 20% match</li> </ul>
<b>UNDERSERVED POPULATION ACCESS</b>	<b>10 PTS</b>	<p><b>Project serves underserved populations:</b></p> <p>Sponsor must prove that the proposed facility provides access to underserved populations, which include:</p> <ul style="list-style-type: none"> <li>• zero auto households;</li> <li>• low-income populations;</li> <li>• minority populations;</li> <li>• elderly populations; or</li> <li>• others defined by project sponsor</li> </ul>

### Planning Factors – Livable Centers Initiative (LCI)

<b>CONNECTIVITY</b>	<b>45 PTS</b>	<b>10 PTS</b>	Project is located in an area that meets the minimum recommended activity density threshold per acre (determined by analysis of population and employment density based on center type) <sup>5</sup>
		<b>5 PTS</b>	<p><b>Pilot or first-time facility:</b></p> <p>(no other facility of this type exists within a jurisdiction or is within a 5-mile radius of the proposed facility).</p>
		<b>15 PTS</b>	<p><b>Land Use Connections:</b></p> <p>Project improves land use connections within .5 miles (to facilities such as schools, community facilities, residential, employment centers, etc.)</p>

<sup>5</sup> The activity density thresholds will be based on the Livable Centers benefits calculator, available at <http://www.h-gac.com/community/livablecenters/tools/default.aspx>. A Main Street category, with a threshold of 6 population plus jobs/acre will be added. Project area is consider ½ mile radius from project location.

**ATTACHMENT B**

**2013-2016 TIP Call For Projects  
Project Evaluation Criteria and Methodology**

<b>CONNECTIVITY, CONT'D</b>		<b>15 PTS</b>	<b>Transit connections<sup>6</sup> within .5 miles of project:</b> <ul style="list-style-type: none"> <li>• <b>15 points</b> if project directly links to a transit connection or is within .25 miles.</li> <li>• <b>10 points</b> if a transit connection is within .26 to .5 miles of proposed project.</li> <li>• <b>5 points</b> if project demonstrates a potential for future connection to a transit system</li> </ul>
<b>INFRASTRUCTURE/ COMMUNITY DESIGN</b>	<b>20 PTS</b>	<b>10 PTS</b>	<b>Pedestrian/Bicycle Accommodations:</b> Project provides an accessible pedestrian/bicyclist environment and efficiently uses existing infrastructure
		<b>10 PTS</b>	<b>Community Preservation:</b> Project strengthens community identity and culture, preserving and enhancing historic and natural features where they exist
<b>SAFETY</b>		<b>10 PTS</b>	<b>Project improves pedestrian and/or bicyclist safety:</b> (Project sponsor must clearly define how the proposed project creates a secure environment and/or reduces the risk or severity of crashes. Other relevant safety features should be noted)
<b>EXISTING PLANS/STUDIES</b>		<b>10 PTS</b>	<b>Project was identified in a locally or regionally-sponsored plan or study</b>
<b>LEVERAGING AND PROMOTING ECONOMIC DEVELOPMENT</b>		<b>5 PTS</b>	<b>Project leverage additional funding:</b> Sponsor has committed more than 20% of local match and/or project has documented partnerships
<b>UNDERSERVED POPULATION ACCESS</b>		<b>10 PTS</b>	<b>Project serves underserved populations:</b> Sponsor must prove that the proposed facility provides access to underserved populations, which include: <ul style="list-style-type: none"> <li>• zero auto households;</li> <li>• low-income populations;</li> <li>• minority populations;</li> <li>• elderly populations; or</li> <li>• others defined by project sponsor</li> </ul>

<sup>6</sup> Transit connections may include: fixed route bus stop; light rail station; park and ride location; and/or transit center.



**Benefit/Cost Methodology – Pedestrian/Bicycle and Livable Centers Initiative (LCI) Projects**

	B/C Methodology	CMAQ Eligibility
<p><b>Category:</b> Alternative Modes  <b>Project Type(s):</b> Bicycle/Pedestrian, Livable Centers  <b>Data:</b> 2015 Projected Travel Skims (Origin and Destination), 2000 Census Transportation Planning Package (CTPP)  <b>Source:</b> H-GAC 2035 Regional Travel Demand Model, US Census</p> <p><i>A detailed explanation of this analysis is available on the H-GAC website at <a href="http://www.h-gac.com/taq/tip">http://www.h-gac.com/taq/tip</a></i></p>	<ol style="list-style-type: none"> <li>1. GIS buffer analysis used to identify travel analysis zones (TAZs) influenced by the project (0.25 mi buffer).</li> <li>2. Inter- and Intra-TAZ flows (origin/destination) used to identify candidate auto-trips for conversion to ped/bike.</li> <li>3. Candidate flow matrix adjusted to reflect percentage of TAZ covered by project area of influence (0.25 mi buffer) and potential for conversion to bike/ped based on distance between TAZ centers (&lt;1mi = walk, 1-5 mi = bike, &gt;5 mi = no conversion).</li> <li>4. Adjusted candidate flows converted to estimated walk/bike trips using mode shares for short trips from 2000 CTPP (26% walk conversion for &lt;1 mi, 6.5% bike conversion for 1-5 mi).</li> <li>5. Use estimate of converted walk/bike trips and distance between TAZ centers (or 0.5 mi for intra-TAZ trips) used to generate estimated VMT reduced.</li> <li>6. Estimate emissions reductions using MOSERS 11.1 (Equation 2)</li> <li>7. Emission benefits extended over applicable project life, monetized and discounted to 2012.</li> </ol>	