A. Student Learning Outcomes for the program. List the Student Learning Outcomes for the program (Number for later reference).

1. Provide graduates from the M.S.T. program with technical capabilities. The objective outcomes are:

   1.a. Read, interpret and synthesize information from technical reports, peer-reviewed journals, and other publications,

   1.b. Conduct projects that include all steps of the scientific method, and

   1.c. Communicate background, methods, and results of a project in technical articles and reports

2. Prepare graduates from the M.S.T. program to have effective work place skills. The objective outcomes are:

   2.a. Oral and written presentation of technical and scientific information

   2.b. Motivation to pursue life-long learning
B. **Curriculum Map.** Where is the information covered in the courses required in the program? At what developmental stage is it covered (Beginning, Middle, or End)? *Courses are determined by the Advisory Committee of the student based on the student’s area of concentration.*

B = Beginning, M = Middle, E = End

B = outcome introduced in beginning of development, such as in introductory course  
M = outcome covered in middle stages of development  
E = outcome fully developed at the end of career, such as in a capstone course

<table>
<thead>
<tr>
<th>Courses in program (Required &amp; Electives)</th>
<th>Student Learning Outcomes (SLO)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SLO - 1.a</td>
</tr>
<tr>
<td>Required Courses</td>
<td></td>
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<tr>
<td>CEE 609 – Engineering Project Management</td>
<td></td>
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<tr>
<td>CEE 663 – Traffic Engineering</td>
<td>M</td>
</tr>
<tr>
<td>CEE 760 – Transportation Planning</td>
<td>M</td>
</tr>
<tr>
<td>CEE 765 – Public Transportation Systems</td>
<td>M</td>
</tr>
</tbody>
</table>

Note: Remaining courses are determined by the advisory committee of the student based on the student’s area of concentration in transportation engineering.
C. **Methods, Instruments and Analysis.** What instruments will be used over the three years? Which learning outcomes will be assessed by the instruments? Who is responsible for instrument development/validation and data collection? When and where will data be collected over the three years? How will results be reported (e.g. percentages, ranks, state or national comparisons) and what are the expected measures (results that would indicate success)?

<table>
<thead>
<tr>
<th>Assessment Instrument</th>
<th>Student Learning Outcomes (SLO)</th>
<th>Person responsible for instrument and data collection</th>
<th>When and where will data be collected</th>
<th>Expected Measures (Results that would indicate success)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA of Graduating Students</td>
<td>SLO – 1.a.</td>
<td>CEEC-GAC</td>
<td>Every semester</td>
<td>Average GPA of 3.0 or above.</td>
</tr>
<tr>
<td>Graduate Exit Survey and Interview</td>
<td>SLO – 1.a.</td>
<td>CEEC-GAC</td>
<td>Every semester</td>
<td>At least 80% positive responses towards the outcome.</td>
</tr>
<tr>
<td></td>
<td>SLO – 1.b.</td>
<td></td>
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<tr>
<td></td>
<td>SLO – 1.c.</td>
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<tr>
<td></td>
<td>SLO – 2.a.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>SLO – 2.b.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Publications</td>
<td>SLO – 1.b.</td>
<td>CEEC-GAC</td>
<td>Every three years</td>
<td>Average of one journal paper for thesis option graduating student and one conference paper for project option graduating student.</td>
</tr>
<tr>
<td></td>
<td>SLO – 1.c.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SLO – 2.a.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alumni Survey</td>
<td>SLO – 2.b.</td>
<td>CEEC-GAC</td>
<td>Every three years</td>
<td>Average of 4.0 on a scale of 0.0 to 5.0 of the assessment instrument.</td>
</tr>
</tbody>
</table>
D. Analysis & Reporting. List the position(s) responsible for data analysis and report below.

CEEC Department Graduate Affairs Committee

This program graduated one student during the analysis period. The results show very good results including a high GPA, publications, and obtained excellent career employment after graduation.

GPA of Graduating Students

The student GPA was 3.88 which is higher than the minimum value of 3.0.

Graduate Exit Survey and Interview

The student who graduated from this program did not provide responses to the survey questionnaire. Hence, responses from all graduates from all CEEC programs are used to evaluate this item. In general, most students are “very satisfied”, “satisfied” and “somewhat satisfied” with the graduate program. Less than 10 percent of the students are not feeling positive about various aspects of the CEEC program. The following two figures provide details about students’ responses.
How satisfied were students with each of the following aspects of the CEEC Department:

- Quality of graduate curriculum
- Quality of graduate level teaching by faculty
- Intellectual quality of faculty
- Diversity of faculty
- Relationship between faculty and graduate students
- Level of support provided by your academic/research
- Level of support provided by your academic committee
- Level of support provided by graduate coordinator
- Level of collegial and supportive environment provided by CEEC...
- Overall academic experience

Satisfaction levels:
- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied
Number of Publications

The student who graduated from this program with one journal paper in 2016 and one conference paper in 2015. In addition, the student has one journal paper under review. This clearly exceeds the target expectations.
Alumni Survey

No data was collected for this item. However, considering that the alumni from this program is working as an Operations Analyst for one of the most innovative companies in the field, Uber, the graduate from this program is likely to be highly motivated to pursue lifelong learning.

E. Process for Program Improvement. What is your plan for reviewing and acting on your findings?

The results will be reviewed in a meeting of Graduate Affair Committee. The suggestions prepared by the Committee will be presented in a full faculty meeting, so that it can be implemented in the following academic year.

Between 5-10 percent of graduate survey students indicated that they did not receive advice from the department. This is likely to be for the MSE All-Course option which is not relevant to MST. The student who graduated from the MST program received advice from Dr. Paz.

It is recommended that all graduate students be required to complete the graduate program survey before graduation.