

Local Safety Program

Application and Guidelines

November
2020





Process Summary

The Local Safety Program Application is a two-part process with a pre-check for eligibility.

Eligibility Check portion of the application is to determine HSIP eligibility. Complete this section to determine whether to move to Phase 1.

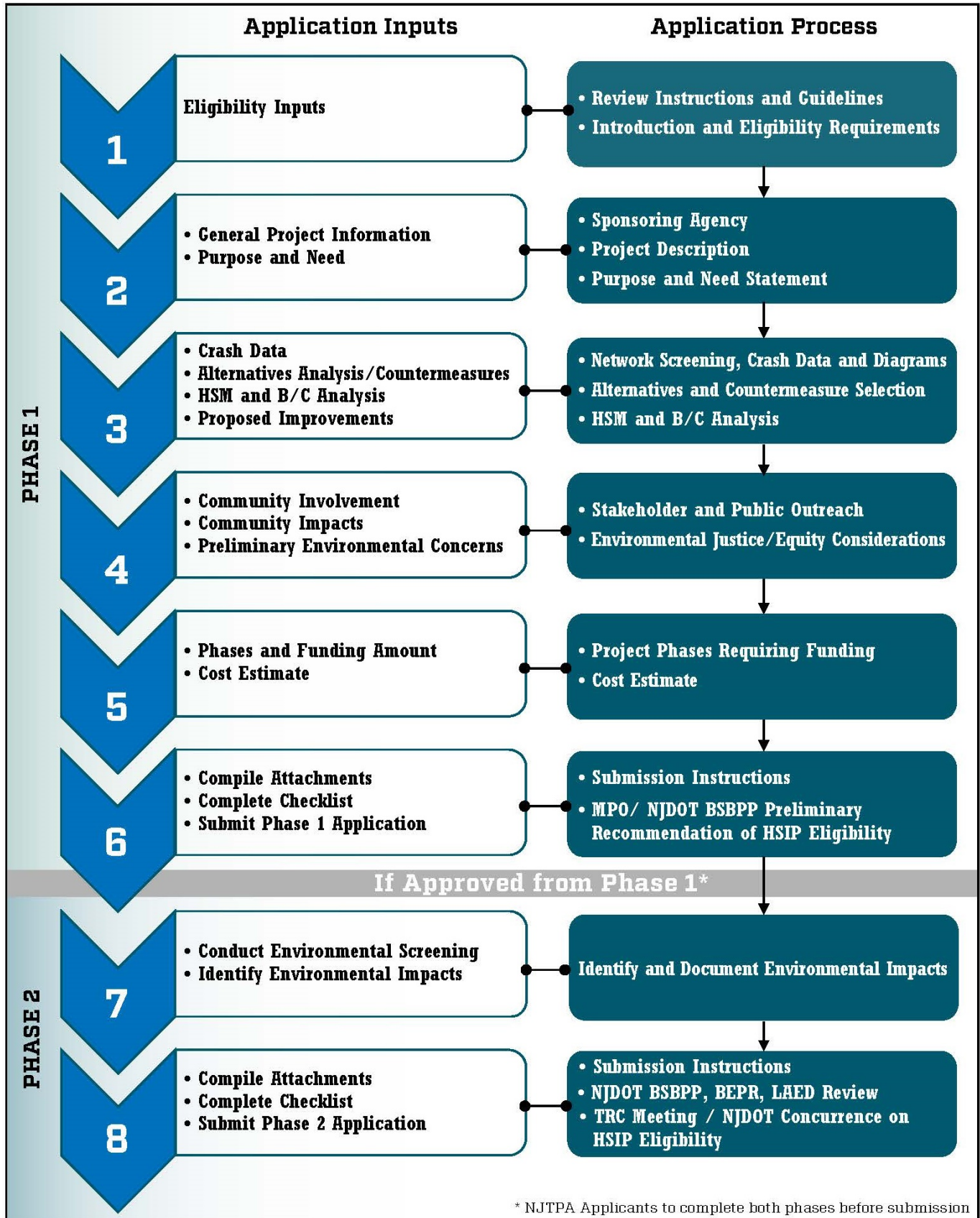
Phase 1 (Sections 1-6) of the application is to request HSIP funding. Complete this section, and if approved, proceed to Phase 2.*

Phase 2 (Section 7-8) requires a more thorough environmental screening of the project location, once a project is determined to be eligible.

* NJTPA Applicants to complete both phases before submission

It is the responsibility of the MPOs, project sponsors and applicants to ensure all portions of this application, including analysis and attachments are complete.

State of New Jersey - Local Safety Program Application (LSPA) Flowchart of Application Process



* NJTPA Applicants to complete both phases before submission

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Appendices

- A. Scoring Criteria
- B. Activity Tracker/Comment Resolution Summary
- C. Sample Crash Diagram
- D. Sample Statements and Schedules

- E. Categorical Exclusions
- F. Sample HSM and Benefit-Cost Analyses
- G. Useful Websites for Environmental Screenings
- H. Sample Public Outreach Documents
- I. Application Submission Deadlines / Schedule

Acronyms

AADT	Average Annual Daily Traffic
AASHTO	American Association of State Highway Transportation Officials
ADA	Americans with Disabilities Act
ACOE	Army Corps of Engineers
BEPR	Bureau of Environmental Program Resources
BSBPP	Bureau of Safety, Bicycle and Pedestrian Programs
CCSA	Congestion and Crash Site Analysis
CE	Categorical Exclusions
CMF	Crash Modification Factor
CMS/MIA	Congestion Management Study/Major Investment Study
DVRPC	Delaware Valley Regional Planning Commission
EAP	Engineering Assistance Program
ECRA	Environmental Cleanup Responsibility Act
EJ	Environmental Justice
EPA	Environmental Protection Act
FD	Final Design
FHWA	Federal Highway Administration
HRRRP	High Risk Rural Roads Program
HSIP	Highway Safety Improvement Program
HSM/BC	Highway Safety Manual / Benefit Cost
LAED	Local Aid and Economic Development
LSP	Local Safety Program
MPO	Metropolitan Planning Organization
MUCTD	Manual on Uniform Traffic Control Devices
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic Safety Administration
NJDEP	New Jersey Department of Environmental Protection
NJDOT	New Jersey Department of Transportation
NJTPA	North Jersey Transportation Planning Authority
NOAA	National Oceanic and Atmospheric Administration
PE	Preliminary Engineering
PN	Purpose and Need
PPA	Preliminary Preferred Alternative
PS&E	Plans, Specifications and Estimates
RFP	Request for Proposal
ROSI	Recreation and Open Space Inventory
ROW	Right of Way
RSA	Road Safety Audit
RSS	Road Safety Scan

SHSP	Strategic Highway Safety Plan
SJTPO	South Jersey Transportation Planning Organization
SRI	State Route Identifier
TRC	Technical Review Committee
UMT	Urban Mass Transportation Act
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tanks

Legend

SECTION

This identifies a grouping of similar subsections, clicking returns you to the Table of Contents.

A. Subsection Text

Clicking the text will link you back and forth between the Guidelines and Application.

Heading

This identifies an additional breakdown within the subsection (no links).

Link General Information

These links will take you to specific areas in the document for additional information (i.e. internal document links).

Website Link

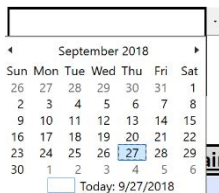
These links will take you to external websites for additional information.



Check box; click once to select and again to clear.



Fill-in text box; complete with the requested information.



Date box; select the specific day if known, otherwise select the first of the month/year.

Beginning on page 1, the footer will also include the below table which will allow you to navigate through the document by section and back to the table of contents. You can also use the PDF bookmarks.

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Click here to go to Section 4 of the Application

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Phase 1 (Sections 1-6)



SECTION 1

A. Introduction

The New Jersey Highway Safety Improvement Program (HSIP), which includes the Local Safety Program (LSP) and the High Risk Rural Road Program (HRRRP), are federally-funded programs (from the Federal Highway Administration) established by the NJDOT and facilitated by New Jersey’s three (3) Metropolitan Planning Organizations (MPOs): NJTPA, DVRPC, and SJTPO.

The purpose of the HSIP and the LSP is to achieve a significant reduction in fatalities and serious injuries on all public roads, regardless of ownership, through a data-driven, strategic approach consistent with New Jersey’s Strategic Highway Safety Plan (NJ SHSP). Selected projects will follow NJDOT’s Project Delivery Process which aligns with FHWA’s regulations. This application will serve as the Problem Screening and Concept Development phases. Additional details are provided in the Guidelines.

B. Eligibility

The questions below are designed to help you determine the eligibility of your project for HSIP funding.

1. Has any portion of the project location previously received HSIP funding? Yes No
2. Is this project identified as a potential safety project? (i.e. on a Network Screening List and/or verified by your MPO with other crash data) Yes No
3. Is this project routine maintenance/replacement project (general resurfacing)? Yes No
4. Is this project congestion management/roadway capacity enhancements (roadway widening)? Yes No
5. Does the project improvements involve State, U.S. or Interstate highways including improvements at intersections with such facilities? Yes No
6. Does the project include aesthetic improvements along the ROW *only* (streetscapes)? Yes No
7. Have you or your sponsor agency received federal funds within the last 3 years? Yes No
8. Are you or your sponsor agency familiar with the federal aid eligibility assessment? Yes No

If you answered **Yes** to question 1, **No** to question 2, and **Yes** to any of questions 3-6, this project is not eligible for HSIP funding. If you answered **No** to questions 7 or 8, please contact your MPO (do not proceed to Section 2). **If this project is not eligible for HSIP funding, STOP. If this project is eligible for HSIP funding, proceed to Section 2.**

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SECTION 2

A. Application Submission Information and Priority

Submission Date: Click or tap to enter a date. Program: Local Safety High Risk Rural Road

If submitting more than one application, what is the applicant’s priority of this application?

Priority #: Click or tap here to enter text. of Click or tap here to enter text. applications

Project Name: Click or tap here to enter text.

MPO: Choose an item.

B. Sponsoring Agency

Project Sponsor (county or city): Click or tap here to enter text.

Agency Name and Address: Click or tap here to enter text.

Agency Contact Telephone: Click or tap here to enter text. Fax: Click or tap here to enter text.

Project Manager’s Name and Title: Click or tap here to enter text.

Telephone Number: Click or tap here to enter text. Email: Click or tap here to enter text.

C. Project Location, Description and Roadway Information

Project Name: Click or tap here to enter text.

County(s): Choose an item. Municipality(s): Click or tap here to enter text.

Street Name: Click or tap here to enter text. Route #: Click or tap here to enter text.

Milepost Limits: Click or tap here to enter text.

SRI: Click or tap here to enter text. (Include NJDOT’s Straight Line Diagram)

Functional Classification: Click or tap here to enter text.

Width of the roadway: Click or tap here to enter text. Width of ROW: Click or tap here to enter text.

Jurisdiction of the roadway: Click or tap here to enter text.

NOTE: If the project sponsor is not the sole roadway owner, please provide written documentation of support for this application from the roadway owner(s).

Jurisdiction of sidewalks within project limits: Yes No

AADT (Major): Click or tap here to enter text.

AADT (Minor) (if applicable; if multiple, include in next box): Click or tap here to enter text.

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List cross streets and mileposts (if applicable):

Is there a railroad crossing within a 1,000-foot radius of the project's limits?

Provide a brief description of the project area (information not included above). Yes No

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D. Purpose and Need Statement

See Appendix D for sample.

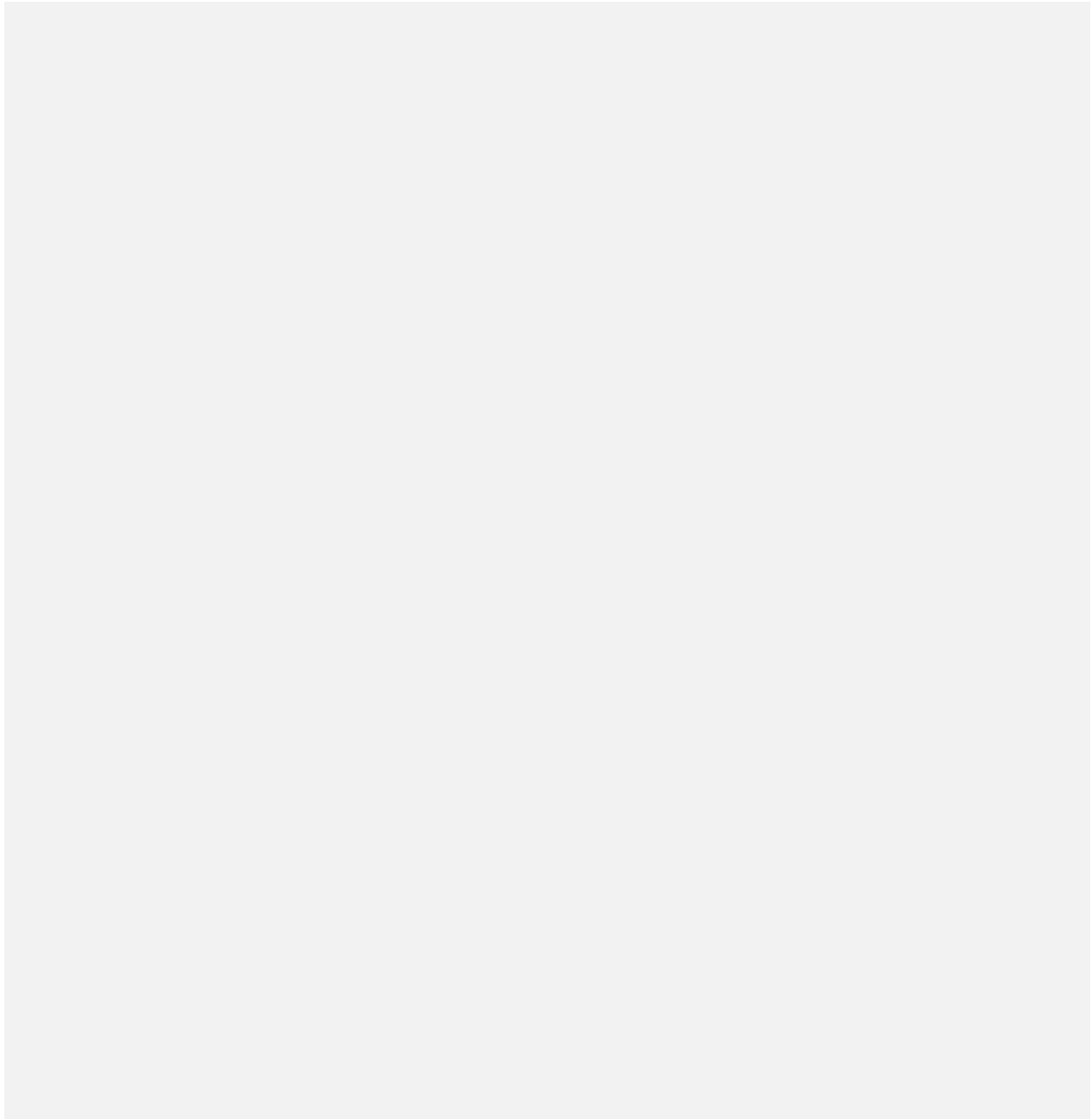


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SECTION 3

A. Project Identification

This project is recommended based upon:

- Network Screening/Hot Spot
 Systemic Approach
 Other Safety Concern

Preference will be given to project locations ranked higher on one of the Network Screening Lists.

MPO Network Screening Lists

Please identify the Network Screening List and Rank that make this project eligible for HSIP funding. For pedestrian lists, use your respective MPO lists as noted below.

MPO	List	Rank
All	Intersection	Click or tap here to enter text.
All	Regional Corridor	Click or tap here to enter text.
All	High Risk Rural Roads (HRRR)	Click or tap here to enter text.
NJTPA	Pedestrian Intersection	Click or tap here to enter text.
NJTPA	Pedestrian Corridor	Click or tap here to enter text.
DVRPC SJTPO	Pedestrian/Bicyclist Intersection	Click or tap here to enter text.
DVRPC SJTPO	Pedestrian/Bicyclist Corridor	Click or tap here to enter text.

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Local Safety Program

If there are other safety concerns, provide a description below. Project locations that do not coincide with a Network Screening List will be considered if they have a significant crash trend (most recent three-year vehicular and/or most recent five-year pedestrian/bicyclist) or an explanation as to why the location was selected over higher crash priority locations (e.g. challenges, SHSP guidance, pedestrian and/or intersection focus, geocoding, etc.).

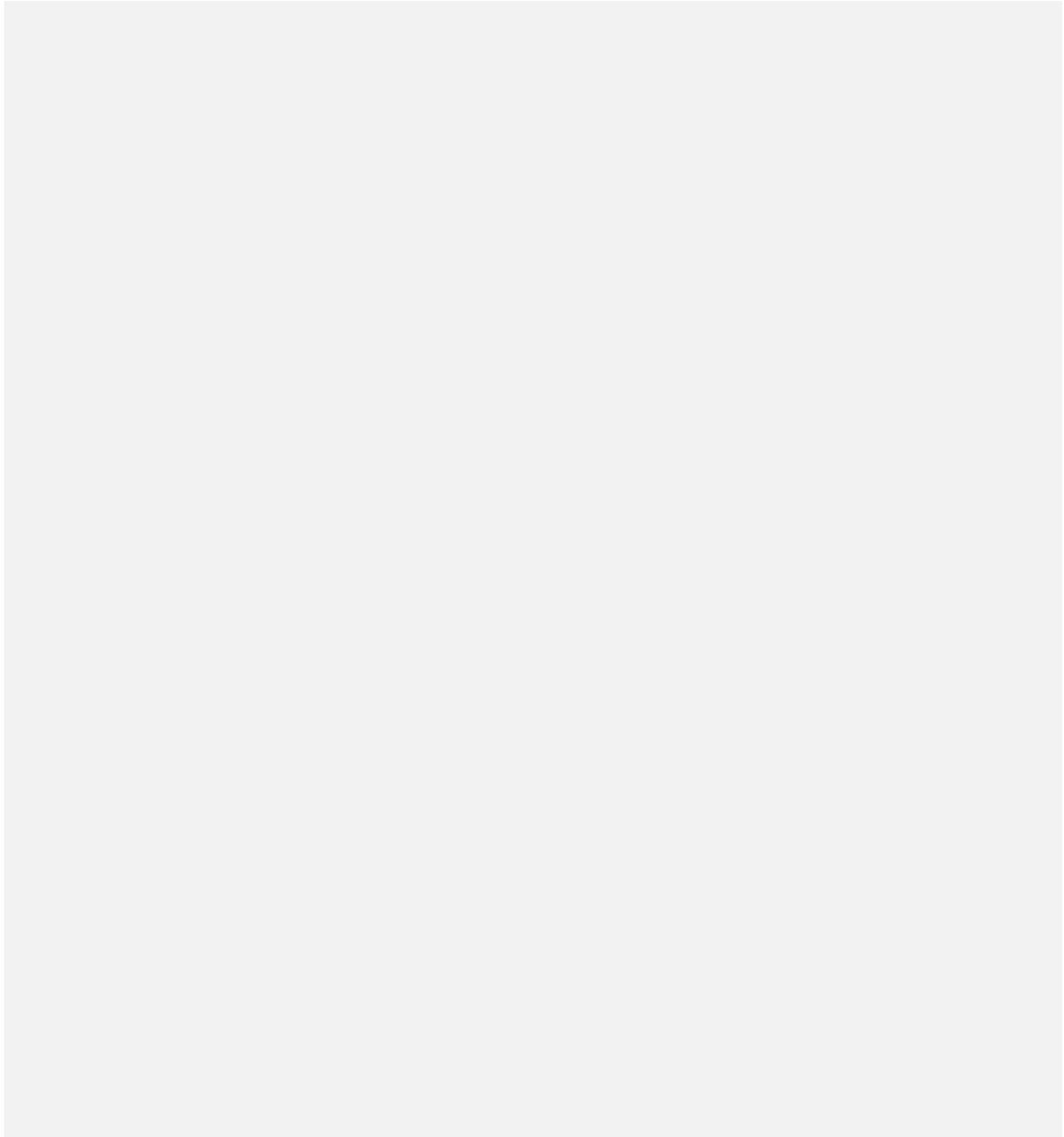


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Past Studies

Identify whether a prior study was conducted of the project location.

Type	Yes	No	Date (if Yes)
Local Safety Action Plan	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
Road Safety Audit (RSA)	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
Road Safety Scan (RSS)	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
Congestion and Crash Site Analysis (CCSA)	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
Parking Study	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
Mobility Study	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
Other: Click or tap here to enter text.			Click or tap here to enter text.

If the project is based on recommendations from a past study(ies) identified above, please include the recommendations in the comment box below. If the Sponsor is not committing to all the recommendations in the above noted study(ies), please identify which elements are not being considered and why?

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B. Crash History / Diagrams

Please attach a full three-year vehicular crash history and/or a full five-year pedestrian/bicyclist crash history of the location in Excel format. Include a crash diagram or diagrams (if the project includes multiple intersections). It may be useful to also include aerial imagery of the project area.

Provide a brief description of the project safety issues, predominant crash type(s) and the deficiencies that need to be addressed. ([SJTPO Applicants](#))

C. Alignment with NJ Strategic Highway Safety Plan (SHSP)

For a project to be eligible to receive HSIP funds, your objective(s) in performing this project should align with one or more of the SHSP emphasis areas, below. Applicants are strongly encouraged to address at least one emphasis area. Check off the area or areas that best align with this project.

- | | | | |
|--------------------------|------------------------|--------------------------|----------------------------|
| <input type="checkbox"/> | Lane Departure | <input type="checkbox"/> | Driver Behavior |
| <input type="checkbox"/> | Intersections | <input type="checkbox"/> | Pedestrians and Bicyclists |
| <input type="checkbox"/> | Other Vulnerable Users | <input type="checkbox"/> | None of the Above |
| <input type="checkbox"/> | Equity | | |

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D. Alternatives/Countermeasures Selection

Please attach a MATRIX of conceptual alternatives that were looked at in addressing the projects safety issues. A minimum of two (2) alternatives should be investigated, excluding the no-build alternative for a total of three (3) alternatives. For a systemic approach, countermeasures must address the geometric roadway features related to a specific crash type.

Consideration of FHWA Proven Safety Countermeasures (PSC)

Please check if one or more of these countermeasures will be included in this proposed project. Select “NI” if the countermeasure was considered but not implemented, “No” if the countermeasure was not considered, or “N/A” if not applicable to the project type. A link to the PSC is provided in the [Guidelines](#).

Yes	No	NI	N/A	Countermeasure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Road Diet
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Corridor Access Management
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Yellow Change Intervals
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Roadside Design Improvement at Curves
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Safety Edge
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Wider Edge Lines
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bicycle Lanes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Crosswalk Visibility Enhancements
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lighting
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rectangular Rapid Flashing Beacon (RRFB)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pedestrian Hybrid Beacon
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Dedicated Left and Right Turn Lanes at Intersections
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Local Road Safety Plan
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Roundabout
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Median Barrier
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Leading Pedestrian Interval
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reduced Left-Turn Conflict Intersections
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Backplates with Retroreflective Borders
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Walkways
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Longitudinal Rumble Strips and Stripes on Two-Lane Roads
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Medians and Pedestrian Crossing Islands in Urban and Suburban Areas
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enhanced Delineation and Friction for Horizontal Curves

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If countermeasures were **considered** but ultimately eliminated, please explain why they are not included in this proposed project (i.e. if “NI” is checked above).

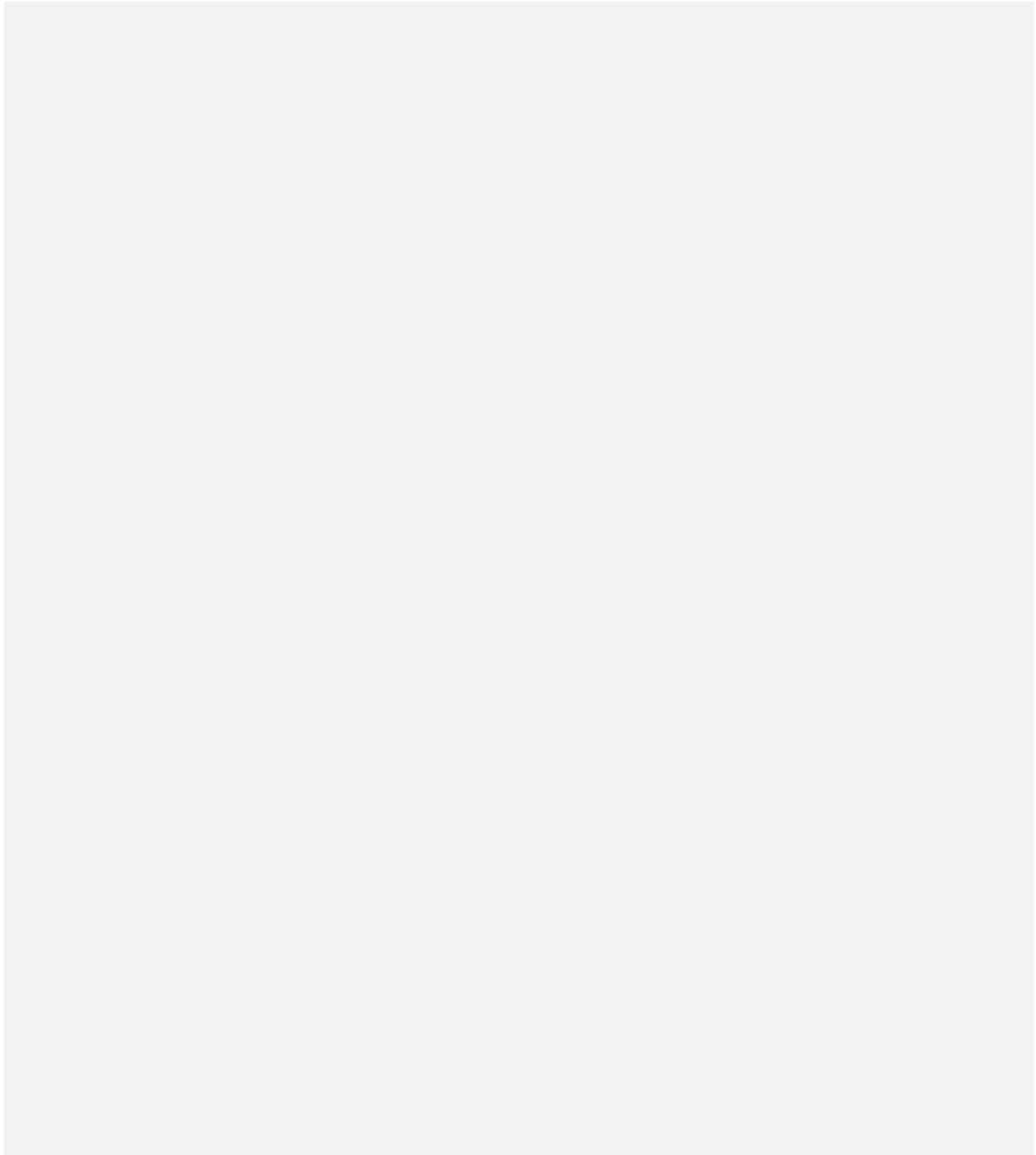


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E. Highway Safety Manual (HSM) and Benefit-Cost Analysis

Attach the HSM and Benefit-Cost Analyses for each investigated alternative. See Guidelines for exceptions, additional directions, and links to available spreadsheets. Provide a brief summary of the results below. ([SJTPO Applicants](#).) *NOTE: If the HSM does not support the project type, provide other information showing a quantifiable safety benefit. See Appendix D for samples.*

F. Right of Way (ROW)

Provide a description of the known ROW impacts as a result of the investigated alternatives. State the source for ROW information (e.g. GIS parcel data, tax maps, etc.). *See Appendix D for sample.*

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G. Proposed Improvements/Preferred Alternative

Provide a description of the selected alternative/proposed improvements and the expected safety benefits. (For instance, a strong proposal for a dedicated left turn signal would document recent left turn crashes at the intersection in question, explain how the proposed improvement would reduce the number and/or severity of these types of crashes, and have a benefit/cost ratio greater than 1.)

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SECTION 4

A. Community Involvement

Identify whether the following community involvement was undertaken (check all that apply). Include any dates associated those community activities. Resolution(s) of Support are encouraged.

- Local Officials Meeting(s)

Date: [Click or tap to enter a date.](#)
- Town Council Presentation(s)

Date: [Click or tap to enter a date.](#)
- County Resolution of Support

Date: [Click or tap to enter a date.](#)
- Municipal Resolution of Support

Date: [Click or tap to enter a date.](#)
- 2nd Municipal Resolution of Support (if project exceeds 2 municipalities, please attach additional Resolutions of Support)

Date:
- Notification Letters/Press Releases with Request for Comment/Support

Date:

If none of the above was performed to date, provide an explanation below and identify plans to involve the community in the next project phase (i.e. what is the anticipated Public Involvement Action Plan).

List in the comment section below any local or regional groups, organizations and/or individuals who may have an interest in the project because they are known to be knowledgeable about or interested in the area and/or may have an interest in the improvements proposed by this project.

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B. Community Impacts

It is important to determine if segments of the population may be at risk of being unduly impacted by, or were historically underrepresented within, the transportation decision-making process. These segments include individuals in at least one of the following categories: Low Income, Minority, Elderly, Children, Limited English Proficiency, or Persons with Disabilities.

Does the project have the potential to introduce any Title VI and/or Environmental Justice Issues?

- Yes No

Please list and explain any issues in the comment section below.

Will the project result in equitable changes to the transportation system?

- Yes No

Please list and explain any changes that are not equitable in the comment section below.

Is the project located in a historically underserved community?

- Yes No

If so, please list and explain in the comment section below.

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C. Preliminary Environmental Impacts

DVRPC/SJTPO Applicants Only: Does the project have potential involvement with environmental resources? Check all that may apply. Specific details do not need to be provided at this time – see Guidelines for directions.

- Cultural Resources/Historic Properties and/or Districts
- Wetlands
- Streams/Open Waters
- Special Protection Areas (Highlands, Pinelands, Coastal, Meadowlands or D&R Canal)
- Threatened/Endangered Species (federal and state)
- Hazardous Waste
- Publicly Owned Parkland or Open Space
- Air/Noise Sensitive Receptors (e.g., residences, schools, hospitals, churches, parks)

NJTPA Applicants – proceed to Section 5

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SECTION 5

Project Funding and Anticipated Cost

For what phases are you requesting federal funds (indicate estimated dollar amount, fiscal year for each)? Design assistance applies to all phases *except* Construction. Please attach a line item cost estimate.

Check	Project Phase (select all that apply)	Estimate	Federal Fiscal Year
<input type="checkbox"/>	Preliminary Engineering	Click or tap here to enter text.	Click or tap here to enter text.
<input type="checkbox"/>	Final Design	Click or tap here to enter text.	Click or tap here to enter text.
<input type="checkbox"/>	Right-of-Way	Click or tap here to enter text.	Click or tap here to enter text.
<input type="checkbox"/>	Construction	Click or tap here to enter text.	Click or tap here to enter text.
<input type="checkbox"/>	Construction Inspection	Click or tap here to enter text.	Click or tap here to enter text.
	Total Requested	Click or tap here to enter text.	Click or tap here to enter text.

- Please describe how these funds will be used. (**DVRPC/SJTPO Applicants Only:** Please indicate if funds will be used to support in-house work or to hire an outside consultant.)

- Will the requested funds cover all project costs? Yes No
 - If not, please list additional funding sources.

- If the applicant is **only** seeking construction and/or construction inspection funding, how was or will the design be prepared?

 In-house Consultant
 - When does the Sponsor anticipate having the PS&E package ready for submission to NJDOT Local Aid? Assume the project is approved in October of the current year. Click or tap to enter a date.

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- b. Has the design of the proposed improvements been reviewed and certified by a NJ licensed engineer?
 Yes No
 - c. If design plans for the proposed improvements have not yet been reviewed and certified, please identify the date by which you expect these design plans to be reviewed and certified.
4. For projects in design, please list below all permits and approvals required for this project, whether approval was received, or date when approval is expected to be received. For projects not yet in design, please list anticipated permits, if known.

SECTION 6

A. Submission Instructions

Click your MPO to see instructions for submitting Phase 1 applications in the Guidelines.

[DVRPC](#)

[SJTPO](#)

[\(NJTPA – Proceed to Section 7\)](#)

B. Attachments Checklist

Please identify applicable attachments included with your Phase 1 application. Item 1 is not required for Network Screening/Hot Spot or Other Safety Concern applications. Items 2, 5, 7, and 8 are not required for systemic applications. SJTPO Applicants, please refer to the [Guidelines](#) for Items 5 and 7.

- 1. List for systemic applications that addresses items for all included locations in Excel format;
- 2. Straight Line Diagram, if applicable;
- 3. Project schedule, including dates for the CED, Preliminary PS&E and Final PS&E;
- 4. Crash history of the location(s) in Excel format
- 5. Crash diagram(s)
- 6. An aerial or diagram(s) to illustrate existing conditions and safety issues at location, if applicable;
- 7. Completed spreadsheet(s) of HSM and B/C analysis;
- 8. Reduced size concept plans, preliminary or final plans, as appropriate;
- 9. Line item cost estimate.

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C. Preliminary Recommendation of HSIP Eligibility

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MPO* - Choose an item.

Was the HSM analysis thoroughly reviewed for completeness? Yes No

Is the project eligible for HSIP funding? Yes No

MPO Signature

Date Click or tap to enter a date.

Title/Department: Click or tap here to enter text.

Please provide explanation in the comment section below.

NJDOT, Bureau of Safety, Bicycle and Pedestrian Programs**

Is the project eligible for HSIP funding? Yes No

BSBPP Signature

Date Click or tap to enter a date.

Please provide explanation in the comment section below.

*NJTPA Region to complete with Section 8

** Complete in Section 8 for NJTPA Region

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Phase 2 (Sections 7-8)



SECTION 7

A. Environmental Screening – General

Please answer Yes or No to the following questions. If the answer is Yes to any of the following questions, please include lists or explanations in Section H. No field testing or sampling of any kind is needed in order to answer the following questions. A “List of Useful Websites for Environmental Screening” is included for your reference in **Appendix G**. For systemic applications, please answer to the extent possible with “N/A” as the buffer.

1. Is this project one of the activities that qualifies for a Programmatic Categorical Exclusion in the NEPA process (see Appendix E)? Yes No

Identify the project type: [Click or tap here to enter text.](#)

2. Will new drainage facilities be installed / extended? Yes No
3. Will retention/detention basins be constructed? Yes No
4. Were any environmental studies (Cultural Resources, Hazardous Waste, Air, Noise, Soil Borings, etc.) undertaken previously within or adjacent to the project area? Yes No
5. Will ROW be acquired? Yes No

If yes, approximately how many? Acquisitions: [Click or tap here to enter text.](#)
 Temporary Easements: [Click or tap here to enter text.](#)
 Permanent Easements: [Click or tap here to enter text.](#)

6. Will public facilities, schools, churches, emergency services, be affected by the project? Yes No
7. Will the project result in residential or business displacement? Yes No

If yes, approximately how many? Residential: [Click or tap here to enter text.](#)
 Business: [Click or tap here to enter text.](#)

8. Is it likely that more than ¼ acre of new impervious surface will be constructed and/or one acre or more will be disturbed by construction? Yes No
 (If so, NJDEP Stormwater Management Rules apply)

Identify the buffer used around the project for the purpose of the screening Sections A-G (Project Study Area; 250 or 500-ft recommended): [Click or tap here to enter text.](#)

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NOTE: For Sections B-F below, if the item is not known, select "TBD" (To Be Determined) in the drop-down menu and provide an explanation in the comments box at the end of each section. Additional comments can be summarized in Section G.

B. Cultural Resources

Are there any undisturbed areas, old foundations, or building rubble in the project study area? Yes No TBD

Does the project study area fall within an archeological grid? Yes No TBD

Do any of the following exist in the project study area? (Section 4(f))

	Over 50 years	Local County/ Municipal List	National Register	NR Eligible or SHPO Opinion	NJ State Register
Building	<input type="checkbox"/>				
Bridge/Culvert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Historic District		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Historic Property		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

C. Ecology

Special Protection Areas (check those that apply):

- | | | |
|---|--|---|
| <input type="checkbox"/> Highlands (<i>identify sub-area</i>): | <input type="checkbox"/> Preservation Area | <input type="checkbox"/> Planning Area |
| <input type="checkbox"/> Coastal Area (<i>identify sub-area</i>): | <input type="checkbox"/> CAFRA | <input type="checkbox"/> Waterfront Development |
| <input type="checkbox"/> Delaware and Raritan Canal (<i>identify sub-area</i>): | <input type="checkbox"/> Review Zone A | <input type="checkbox"/> Review Zone B |
| <input type="checkbox"/> Hackensack Meadowlands | | |
| <input type="checkbox"/> Pinelands | | |
| <input type="checkbox"/> Not in a Special Protection Area | | |

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Do any of the following exist within the project study area (check those that apply)?

- Wetlands
- Freshwater
- Vernal pools
- Known
- Coastal
- Potential
- Streams
- C-1 on site or downstream within the HUC-14
- TM/TP
- Flood Hazard Area (>50 acres drainage)
- FW2-NT
- Riparian Zones
- PL
- Tidal
- SE
- Navigable: ACOE- 33 CFR Part 329 or USCG- 23 U.S.C.§ 144 (c)
- Flood Hazard Terrestrial Corridor Species
- Threatened and Endangered species critically dependent on regulated waters
- Additional Threatened and Endangered species in the project study area:
 - Federally Endangered
 - Federally Threatened
 - State Endangered
 - State Threatened
- Natural Heritage Grid, Natural Heritage Priority Site
- Known roadway wildlife conflicts
- Wild and Scenic River:
 - Listed
 - Candidate
- Essential Fish Habitat
- Publicly owned parkland or open space (Section 4(f))
 - If checked, is the parkland/open space encumbered under Green Acres? Yes No
- Waterfowl and wildlife refuges or wildlife management areas (Section 4(f))
- Recreational facilities or school athletic fields (Section 4(f))
- Farmland Preservation
- Dams

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Comments:

D. Landscape Architecture

Vegetation Management

Are there qualifying grids within the project area (NNL PL 2001, Chapter 10 Reforestation)? Yes No

Does existing vegetation need management? (If yes, check all that apply below) Yes No

- Fixed objects (trees in clear zone or sight triangle)
- Falling hazards (overhanging branches, trees on steep slopes or leaning trees)
- Diseased, dead or dying trees
- Erosion (from traffic, concentrated flow, salt, or herbicide treatments)

Subsurface Conditions

Are rocky conditions indicated in the soil survey or visually apparent? Yes No TBD

Are there any acid producing soils from marine or sulfate deposits? Yes No TBD

Comments:

E. Air and Noise

Are there any sensitive receptors (e.g., residences, schools, hospitals, churches, parks, etc.) within 300 feet of the project limits? Yes No TBD

Is the project in a maintenance area for Carbon Monoxide? Yes No TBD

Is the project in a maintenance area for PM-2.5? Yes No TBD

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Is the project in a maintenance area for PM-10? Yes No TBD

Note: New Jersey is in Attainment for CO, PM 2.5 and PM 10.

Comments:

F. Socioeconomics

Does farmland or community facilities exist within the project study area? Yes No

Do bus stop shelters, playgrounds, parks or gardens exist within the project study area? Yes No

Community Profile:

Minority: [Click or tap here to enter text.](#) Low Income: [Click or tap here to enter text.](#) Linguistically Isolated: [Click or tap here to enter text.](#)

Comments:

G. Hazardous Waste

Are there any known or suspected hazardous waste sites within the project study area (e.g., UST, landfills or known NJDEP cases)? Yes No TBD

Are there active or abandoned industries, service stations or repair shops within the project study area? Yes No TBD

Is there evidence of potential contamination (e.g., monitoring wells, stained soils, questionable fill, etc.)? Yes No TBD

Are railroads or rail yards located in the project study area? Yes No TBD

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Comments:

H. Anticipated NEPA Document

- CCED CED

I. Environmental Screening Summary

Provide additional comments to Sections A-G as needed to clarify any answers. Please be brief.

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SECTION 8

A. Submission Instructions

Click on your MPO to see instructions for submitting Phase 2 applications in the Guidelines (same as Phase 1).

[DVRPC](#)

[NJTPA](#)

[SJTPO](#)

B. Attachments Checklist

Please identify attachments that are included with your Phase 2 application. Items 4 and 5 are not required for systemic applications.

- 1. [All Phase 1 Attachments](#)
- 2. Copy of the Preliminary HSIP Determination (*DVRPC and SJTPO Region Applicants only*)
- 3. Environmental Screening Documentation
- 4. USGS MAP showing the project location, limits, and all environmental parameters (e.g., wetlands, historic properties) relevant to your project. Please also include route/street names and mileposts.
- 5. Activity Tracker/Comment Resolution Summary (if revisions requested)

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C. HSIP Eligibility Concurrence

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NJDOT, Bureau of Environmental Program Resources

Is the project eligible for HSIP funding? Yes No

BEPR Signature

Date Click or tap to enter a date.

Please provide explanation in the comment section below.

NJDOT, Local Aid and Economic Development

Is the project eligible for HSIP funding? Yes No

LAED Signature

Date Click or tap to enter a date.

Please provide explanation in the comment section below.

NJDOT, Bureau of Safety, Bicycle and Pedestrian Programs

Is the project eligible for HSIP funding? Yes No

BSBPP Signature

Date Click or tap to enter a date.

Please provide explanation in the comment section below.

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Guidelines



SECTION 1

A. Introduction

HSIP funding may be used for all phases of a project, including design, ROW acquisition, construction and construction inspection. Design assistance is available; check with your MPO for details.

Local Safety Program (LSP) and High-Risk Rural Roads (HRRR)

The LSP was established by the three (3) MPOs in conjunction with NJDOT as a competitive program. The purpose of this program is to advance safety improvements on county and local roadway facilities.

The HRRRP provides the MPOs with funds to advance quick-fix safety improvements on rural roadways that have been identified as high risk. These roadways are functionally classified as a rural major or minor collector or as a rural local road and have crash rates that exceed your MPO region’s average for those HRRR functional classes of roadways. See Section 3.A for additional information.

Federal regulations require improvements be evaluated after implementation to determine whether crashes have been reduced, therefore proposals that can be expected to have a reasonable impact on reducing the number and/or severity of crashes will be considered.

Project Delivery Process

The NJDOT uses the Project Delivery Process to guide work on transportation projects from the identification of a problem through final construction. The Federal Highway Administration (FHWA) requires the use of a formal project delivery process to obtain approval and access to Federal funding. The NJDOT’s Project Delivery Process aligns with FHWA’s regulations. **As such, it is also used by each MPO for the LSP and HRRRP.** The Project Delivery Process consists of the Problem Screening Phase, Concept Development Phase, Preliminary Engineering Phase, Final Design Phase and Construction Phase. [Click here](#) to see the Project Delivery Process diagram.

Problem Screening: The Project Delivery Process begins with an evaluation of potential transportation problems in the Problem Screening Phase. During evaluation, the applicant researches the problem, identifies impacts, and determines how important that problem is relative to other transportation problems. These problems are then ranked by priority and importance.

Concept Development (CD): CD Phase elements include, but are not limited to, data collection, drafting a well-defined and well-justified Purpose and Need Statement, coordination with Subject Matter Experts/local stakeholders, risk identification, development of sensible and practical conceptual alternatives and investigation of all aspects of a project (e.g. environmental, ROW, access, utilities, community involvement, and constructability). The alternative that best addresses the original project need, has the lowest negative impact to the environment and the transportation system, and can be delivered in a timely manner and at a reasonable cost becomes the Preliminary Preferred Alternative (PPA).

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It is intended that this application will serve as the Problem Screening and Concept Development Phases. Should additional analysis be required, a full Concept Development phase will be recommended by the Technical Review Committee (TRC) and the application will address the Problem Screening Phase only.

Preliminary Engineering: Once a PPA is approved, it is further developed using industry standards and practices. During this phase, an environmental analysis is conducted of the PPA and project design work is initiated in support of the environmental document. Key products of the Preliminary Engineering Phase include the Preliminary Engineering Report, Design Exception Report (if necessary) and the Approved Environmental Document.

Final Design: During this phase, a set of detailed construction plans and specifications are developed for construction of the project. All necessary permits to begin construction are obtained in this phase. The Project Delivery Process helps ensure that all design decisions involve the right Subject Matter Experts, the quality design will be constructible, the end result will address the original project need, and that there will be none or minimal changes required during the Construction Phase.

Construction: In this phase, the focus is on minimizing impacts to the existing infrastructure and the traveling public. Utilizing various engineering disciplines, it also ensures that the contractor is building the project according to the design plans and specifications.

Federal Authorization Process

Once LSP and HRRP projects are selected and approved for funding by your MPO, Applicants must work directly with their MPO to fulfill all requirements in the Project Delivery Process for federal authorization. Additional coordination may be required with NJDOT Local Aid and Economic Development and the Bureau of Environmental Program Resources. The timeframe generally needed to complete each phase is as follows:

- Concept Development (only if recommended): 1.5-2 years *NOTE: Since this application is intended to fulfill this phase, this is for informational purposes only.*
- Preliminary Engineering: 1.5-2 years
- Final Design (including permits and ROW acquisitions): 1-2 years

For projects that are already designed and construction-ready:

- Projects must be approved by the Interagency Review Committee (IRC) before submission.
- Projects must follow the latest [HSIP Manual](#).
- Plans and specifications must be prepared by a licensed New Jersey Professional Engineer.
- The Applicant/Project Sponsor Agency must obtain environmental approval and submit the Final PS&E package to NJDOT Local Aid and Economic Development with sufficient time for their review and for FHWA-NJ Division office processing.
- Advertising and construction cannot commence until federal authorization is obtained.
- Applicants/Project Sponsors must follow federal regulations for a competitive bid process. Funds may be forfeited if construction occurs prior to federal authorization.
- Projects must be advertised for construction within 60 days of receiving federal construction authorization.
- Projects must be fully constructed within two (2) years of receiving this authorization.

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Local Safety Program

For projects to be advanced in the requested fiscal year, the Project Sponsor Agency must make the applicable submissions **no later than** the dates posted by each MPO (click an MPO to see their posted deadlines and available funding).

[DVRPC](#)

[NJTPA](#)

[SJTPO](#)

Missing this submission deadline may jeopardize the ability to obtain federal funding authorization by the end of the federal fiscal year.

Federal Funds Reporting Requirements

There are additional administrative requirements that accompany the use of federal funds. Project sponsors are required to report progress to the NJDOT on a quarterly basis. Quarterly reports shall be in writing (by letter or email to the program manager(s) specified at the time) and include technical and financial progress. The MPO project manager shall be copied on all formal communications regarding these products so project status is known and any problems which may arise can be dealt with in a timely manner. For more details on the federal aid process, see www.state.nj.us/transportation/business/localaid/fedaid.shtm.

Additional Federal Resources

The FHWA Office of Safety has a Safety Website replete with information: <http://safety.fhwa.dot.gov/>. This website includes information on the HSIP as well as many other safety topics. It also developed several manuals for Local/Rural Road Owners (http://safety.fhwa.dot.gov/local_rural/training/).

Technical Review Committee (TRC)

A Technical Review Committee, consisting of the Applicants' MPO and NJDOT Staff including Local Aid and Economic Development (LAED), Bureau of Safety, Pedestrian and Bicyclist Programs (BSBPP), and Bureau of Environmental Program Resources (BEPR), will convene in Phase 2 after applications are resubmitted and reviewed. The TRC determines final project eligibility and then evaluates proposals on a competitive basis including:

- Identified crash prone locations and the safety issues that need to be addressed
- Well-defined Purpose and Need Statement
- Evaluation of alternatives
- Type of improvements proposed and the potential safety benefits
- Completion of HSM calculations
- Completion of a cost benefit analysis
- Environmental Screening
- Community Involvement

The TRC will evaluate the complexity of each application submitted for each program (LSP or HRRRP), expected safety benefit, level of engineering assistance needed, and determine the year best suited for project advancement. The TRC will also recommend a full Concept Development Phase if additional analysis is required to better understand the project area and improvement impacts. As a guide, each application will be scored on a set of criteria. The project scoring sheet helps aid in the determination of project eligibility. See **Appendix A** for the scoring sheet. *NOTE: it is intended that BSBPP, LAED, and BEPR will review and roughly score applications in advance of TRC (Phase 2 completed). Scoring is meant as a guide only.*

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Engineering Assistance Programs (EAP)

Projects selected into the program will be eligible for assistance by each MPO. The intent of the program is to assist counties and municipalities through the Project Delivery Process phases (Preliminary Engineering, Final Design and Construction) for safety improvement projects selected under the Local Safety and High Risk Rural Roads Programs.

The consultant work for these projects will be co-managed by the MPO and the Applicants, with the MPO managing the consultant contract and providing oversight on the project. Each project shall be developed in coordination with the MPO and the Project Sponsor and reviewed by LAED, BEPR, where applicable, and FHWA. Engineering consultants assist the Applicants with design and advancement through the construction authorization process. In addition, consultant support services may be required with design related questions during construction. Applicants can request assistance by checking the phases requiring funding in [Section 5](#) (Preliminary Engineering and Final Design).

- NJTPA: [Engineering Assistance](#)
- DVRPC: Engineering Assistance (not offered at this time)
- SJTPO: Contact for Engineering Assistance details

If an Applicant chooses construction inspection assistance, an RFP for consultant selection in accordance with the Federal [Brooks Act](#) will need to be prepared by the Applicant and a final negotiated cost proposal included with the Final PS&E package submitted to NJDOT LAED for construction authorization.

Design Standards

A Professional Engineer licensed to practice in New Jersey must prepare the plans and specifications. The NJDOT shall review the engineering documents, plans and specifications for conformance to program requirements and design standards. All design work shall conform to the applicable American Association of State Highway and Transportation Officials (AASHTO) design criteria, the current Manual on Uniform Traffic Control Devices (MUTCD), and the NJDOT Bicycle Compatible Roadway and Bikeways Planning and Design Guideline. However, the design of traffic barriers and drainage systems shall conform to the latest NJDOT Roadway Design Manual and any Baseline Document Changes issued thereafter. All workmanship and materials shall conform to the current NJDOT Standard Specifications for Road and Bridge Construction as amended for Federal Aid. If the design cannot conform to the minimum standards as set forth, a design exception will be required.

Performance Measures

Federal regulations require improvements to be evaluated after implementation to measure the relative success or effectiveness. Historic trends, crash rates, severity, types of crashes and changes since the installation of the safety countermeasure(s) at each location should be documented. It is to be determined if the anticipated benefits were realized and the forecasted cost savings achieved. For projects where a pre-HSM analyses were performed for these installations, post-HSM analyses should also be performed (see Section 3.F). If no pre-HSM analyses were completed, other techniques to evaluate the benefits and cost savings should be used. The evaluation should summarize whether the project accomplished its intended safety benefits. Post analyses should be used to guide future decisions and application of countermeasures. An assessment of the project’s effectiveness should describe the following evaluation data for safety improvement projects that have been implemented using these funds:

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Local Safety Program

- Project location (basic information on the roadway where the project occurred);
- Type of improvement(s);
- Cost of improvement(s);
- Three years of before and after vehicular crash data and/or five years of before and after pedestrian/bicyclist crash data.

See the [HSIP Manual](#) for additional information. The costs for the before and after evaluations may be required by the Applicant. Evaluations should be shared with your MPO and NJDOT for reporting purposes.

B. Eligibility

[Click Here to read about FHWA HSIP Project Eligibility](#). The following types of projects are NOT eligible for this program:

- a) Routine maintenance/replacement projects (including general resurfacing projects),
- b) Congestion management/roadway capacity enhancements (roadway widening),
- c) Improvements involving State, U.S. and Interstate highways including any improvements at intersections with such facilities
- d) Aesthetic improvements along the ROW

DVRPC/SJTPO: If the project is eligible, Sections 2 through 5 should be completed by the Applicant and submitted to the MPO for comment or acceptance. Once the Applicant addresses the MPO comments and the project is recommended for HSIP funding, Sections 2 through 5 are submitted to NJDOT BSBPP for comment or acceptance. After preliminary determination of HSIP funding from BSBPP, Section 7 is completed and submitted to BSBPP, LAED, and BEPR (the TRC) for final comment or acceptance.

NJTPA: If the project is eligible, Sections 2 through 5 and 7 should be completed by the Applicant and submitted to the MPO for comment or acceptance. Once the Applicant addresses the MPO comments and the project is accepted, applications are submitted to BSBPP, LAED, and BEPR (the TRC) for comment or acceptance.

An Activity Tracker/Comment Resolution Summary form is provided in **Appendix B** for use during this process, as well as during NJDOT review.

SECTION 2

A. Application Submission Information and Priority

Indicate the date the application is submitted. If submitting more than one application, please indicate the priority of each submission.

B. Sponsoring Agency

The Applicant or Project Sponsor should be eligible to receive federal funding as determined by the [NJDOT Division of Local Aid and Economic Development](#) for each individual phase of the project, as applicable. As such, the Applicant or Project Sponsor must have a full-time employee on staff who will be designated as the “Responsible Charge” for the federal project. This person will be responsible for managing the federal funding

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process. Contact your MPO on any eligibility questions. If the Project Sponsor is not the sole roadway owner, written documentation of support for the submitted application(s) must be presented by the roadway owner. *Example: if the city and county jointly have ownership both agencies must indicate support.*

C. Project Location, Description and Roadway Information

Include the basic information for this project including the county and municipality, street name and route number (if applicable); State Route Identifier (SRI) and the NJDOT’s Straight Line Diagram (SLD; if applicable); Functional Classification; width of the roadway and ROW; AADT on the major and minor roadways; cross streets and mileposts (if applicable), railroads within 1,000 feet, and a brief description of existing conditions. For more detail and information regarding a particular roadway segment, see NJDOT’s Straight Line Diagrams at <http://www.state.nj.us/transportation/refdata/sldiag/>

NOTE: [NJDOT’s Railroad Engineering and Safety Unit](#) is responsible for all reviews and programs involving changes and improvements to all public rail crossings in New Jersey that are designed in compliance with Federal Railroad Administration guidelines. The Unit conducts a Diagnostic Team Review on any NJDOT Bureau of Local Aid and Economic Development project within 1,000 feet of an at-grade crossing on the approach roadway and/or any project that is parallel to a railroad within 200 feet.

D. Purpose and Need Statement

A Purpose and Need Statement (PN) is a fundamental requirement to develop a concept that will require future National Environmental Protection Agency documentation and is the basis for alternatives development. The PN Statement has three parts: The Purpose, the Need, and Goals and Objectives. The Purpose defines the transportation problem. It should also state the positive expected outcome and should be broad enough to consider a wide array of alternatives including multimodal solutions. The Need provides data to support the problem statement (Purpose). The Goals and Objectives describe other issues that need to be resolved as part of a successful solution to the problem. An example can be found in **Appendix D**.

The Applicant in cooperation with their MPO will develop the Purpose, Need and Goals and Objectives to ensure that facts support the proposed project’s Purpose. The Purpose and Need Statement will be developed and submitted to the MPO with additional information, as mentioned in the following sections. MPOs will coordinate with NJDOT and the TRC for evaluation and determination of project eligibility for safety dollars. *NOTE: you may need to complete Section 3 of the application before finalizing the PN Statement.*

SECTION 3

A. Project Identification

Project locations must generally be selected in one of two ways: using the hot spot approach, by selecting off one of the Network Screening lists, or using the systemic approach, based on a risk assessment of a series of locations. Project locations that do not coincide with the network screening will be considered if they have a significant crash trend (i.e. “Other Safety Concern”). Other factors such as Intersection/Pedestrian focus state justification, alignment with SHSP, etc. should be provided by the Applicant. *Please discuss these locations with your MPO to determine eligibility before completing the application.*

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MPO Network Screening Lists

Network screening is an accepted practice among national and state agencies for identifying roadway locations that present safety concerns. Sites that experience high crash frequencies or produce severe crash injuries are of special interest. Screening is primarily used because it is a low-cost method that identifies sites of interest prior to a more in-depth study. This enables the identification process to be both time and cost effective. Using five (5) years of data, priority locations were identified through a data-driven network screening supplied by NJDOT, employing a methodology approved by NJDOT and FHWA-NJ. Lists and methodology can be found at your MPO’s website using the links below.

[DVRPC](#) (Attachment C)

[NJTPA](#)

[SJTPO](#) (Under Location Selection)

Please note that in many cases the priority location rankings are the same for two or more locations, indicating a tie. In these situations, each record with the same score receives the same relative rank, and the next record (lower score) receives the rank that would be next if all tying records were counted individually. For example, the following rankings are from the top ten locations on the Pedestrian Intersections list: 1, 2, 2, 4, 5, 6, 7, 8, 8, 8. In the event of a tied ranking, the Applicant should prioritize locations based on other factors.

NOTE: The Network Screening Lists are based upon a programmatic analysis of statewide locations utilizing data supplied by third party sources. Because of limitations in the data supplied and the method used to develop the list, users should be aware that the rankings of locations and data for locations may be incorrect and/or incomplete. Analysis and engineering judgement should be used when applying insights and assessing network locations. NJDOT makes no guarantees as to the accuracy, completeness, or content of the information. Lists are provided “as is” and are subject to update as more information becomes available.

Systemic Improvements

A systemic approach to safety involves widely implemented improvements based on high-risk roadway features correlated with specific severe crash types ([i.e. risk assessment](#)). Proposals can be submitted with a single improvement type applied to multiple locations. Systemic treatments with existing approved safety benefits are encouraged (e.g.: edge lines and centerline rumble strips along multiple HRRR segments; countdown pedestrian signal heads at multiple intersections identified as having a pedestrian crash trend; high friction surface treatments where run-off-road or vehicle sliding problems exist) as well as use of [FHWA's Proven Safety Countermeasures](#). While projects may be systemic, all projects must identify documented safety concerns at a specific location in order to be eligible. See [FHWA’s systemic website](#) and [Project Selection Tool](#) for additional information. Applicants should coordinate with their MPO for unapproved systemic treatments to determine appropriate methodology.

Past Studies

An RSA is a formal safety performance examination of an existing or future road or intersection by a multi-disciplinary audit team. It qualitatively estimates and reports on existing and potential road safety issues, as well as identifies opportunities for improvements in safety for all road users. An RSS is a scaled-down version of an RSA and is more comparable to a traditional safety review. Each section of study roadway is first driven at normal operating speeds and then assessed either at slower speeds or on foot to take pictures and measurements by experienced highway safety engineers. Both RSAs and RSSs include three parts:

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Local Safety Program

- Data collection – crash data printouts are reviewed by engineers to identify potential safety issues.
- Field review – conducted by the traffic engineer with local participation; each location is documented as accurately as possible.
- Preparation of the report and findings – documentation of findings and any recommended actions.

A CCSA includes a field review with stakeholders to observe the issues, followed by crash and traffic data analyses. Based on the data collected and analyzed, a set of improvements are developed that address the identified problems. Findings and preliminary recommendations are presented to stakeholders at a follow-up meeting which are then finalized in a report.

Parking studies typically aim to identify, how much parking is provided in the study area, how it is utilized and if demand exceeds capacity or if there are underutilized locations. Mobility studies assess current and future travel conditions, deficiencies, and availability (or lack) of travel alternatives for all users.

High Risk Rural Roads

Federal rules require that states define High Risk Rural Roads (HRRR) in conjunction with their SHSP. Safety improvements on roads that meet the state’s definition of a HRRR may be eligible for federal HRRR Program funds. First, to be eligible as a HRRR, the road segment must have a functional classification as either a rural major collector, a rural minor collector, or a rural local road. In addition to the classification, HRRR must provide a data-driven identification of having significant safety risks. The FHWA directs that each state develops its own methodology for identifying segments with significant safety risks with FHWA approval. [See page 9 of the current SHSP for details.](#)

B. Crash History / Diagrams

It is important for Applicants to document specific safety issues with the most recent available crash data, even when the location of the proposed project is identified as a high priority, and to explain exactly how the proposed improvement will reduce the frequency and/or severity of crashes. All projects must demonstrate a crash history by including a multi-year crash history of the location in Excel format and crash diagram(s). **A minimum of three (3) years should be used for vehicular crash data and a minimum of five (5) years should be used for pedestrian/bicyclist crash data.**

Applicants are strongly encouraged to request assistance in obtaining crash history for your project location by contacting MPO staff. Applicants are also encouraged to make their request as soon as possible to allow more time to complete their application. *NOTE: Upon the Applicant’s request, DVRPC Office of Safe Streets will aid with application completion and the crash analysis component. In addition, SJTPO will prepare the diagrams on behalf of the applicant.*

C. Alignment with NJ SHSP

The primary goal of the NJ SHSP is to reduce and ultimately eliminate fatalities and serious injuries on New Jersey’s roadways. The current SHSP is intended to drive HSIP investment decisions. The objective of your project should align with one of the Priority Emphasis Areas in the current SHSP, found at www.saferoadsforallnj.com.

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E. Alternatives/Countermeasure Selection

The selection of an appropriate countermeasure is another key step in the process which addresses the problems identified at the location. For locations selected based on network screening locations, countermeasures must address the types of crashes at the particular location on the Network Screening List. For a systemic approach, countermeasures must address the geometric roadway features related to a specific crash type supported by a risk analysis.

Clearly show a relationship between the types of crashes and the proposed improvements (e.g., countdown pedestrian signals and high visibility crosswalks will address a history of pedestrian crashes along an identified high crash pedestrian corridor). Ultimately, one of the alternatives presented in this section should be selected as the Preferred Alternative in Section G.

The FHWA is promoting research-proven infrastructure safety improvements. Called [Proven Safety Countermeasures](#), these countermeasures address crashes in the focus areas of intersections, pedestrians, and roadway departures, and should be consistent with the Priority Emphasis Areas identified in New Jersey’s SHSP. It is recommended that these eligible improvement-types be considered first.

F. HSM and Benefit-Cost Analysis

HSM Analysis

The AASHTO Highway Safety Manual (HSM) provides tools and techniques for transportation professionals to quantify the safety-related effects of proposed improvements. The HSM can assist in selecting countermeasures, alternatives analysis, and quantifying effectiveness for projects in the Local Safety and High Risk Rural Roads Programs and you are encouraged to use the HSM Manual, the [HSIP Manual](#), [AASHTO HSM Spreadsheets](#) (scroll to *Part C – Predictive Methods, HSM Spreadsheet Tools*) and NCHRP’s [HSM User Guide](#) in selecting treatment types in project applications. HSM tools include:

- ✓ Methods for evaluating safety effectiveness of countermeasure(s) applied at proposed locations
- ✓ Predicted Crash Frequency as a function of traffic volume and roadway geometric and operational characteristics
- ✓ Crash Modification Factors (CMF) for specific geometric or operational modifications that quantify the Expected Crash Frequency (Predicted Crash Frequency x CMF(s)). CMFs not in the Manual can be found in the [CMF Clearinghouse](#).

Applicants must complete HSM calculations using the criteria below from the [HSIP Manual](#).

- a) For projects with estimated construction costs* less than \$250,000, a benefit/cost analysis will be required by applying CMF(s) to crash frequencies obtained from historical crash data.
- b) For projects with estimated construction costs* greater than \$250,000, HSM calculations are required using the appropriate HSM methods/tools and the benefit/cost analysis must be greater than 1.
- c) For pedestrian/bicyclist projects, HSM analysis is **optional** since safety benefits are underrepresented in the HSM due to the limited available data. Justifications for advancement of pedestrian/bicyclist projects will include a data-driven approach to identification and mitigation for improved safety performance. Some examples include identification of relevant Crash Reduction Values, Census Data, Transit

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Connectivity, overrepresentation of specific age groups in crashes, etc. Note all additional support to justify improvements where CMFs are not available with sources. Source should include page number that statistics were taken from (i.e. NHTSA. *Countermeasures That Work: A Highway Safety Countermeasure Guide For State Highway Safety Offices*, Ninth Edition, 2017. P 8-36.).

- d) Systemic improvement projects (based on a risk assessment) will not be required to conduct an HSM or benefit/cost analysis. However, improvements should follow the guidance noted in [Section 3.A](#) and include a risk assessment to identify locations receiving the systemic treatment(s).

* See note in *Benefit-Cost Analysis*

Benefit-Cost Analysis

A benefit-cost analysis is a data-driven systematic process comparing the projected or estimated costs and benefits associated with project alternatives, and ultimately, to select a PPA. It attempts to capture all benefits to society from a project, the cost to achieve those benefits, and reveals the most economically efficient investment. Project benefits are monetized by assigning dollar values to the different effects to compare against the project cost. This analysis is generally conducted as part of an HSM analysis. To calculate a project’s benefit over the service life, the average crash reduction per year is multiplied by the crash cost, or a monetary amount assigned to each crash severity (fatality, serious injury, minor injury, possible injury, and no injury, or a combination of any of these). These calculated annual benefits are then converted back to present value (using a discount rate), totaled, and compared with the total project cost. A resulting benefit/cost ratio greater than 1.0 indicates that the benefits of the improvements outweigh the project cost and could then qualify for safety funds.

* NOTE: Construction cost should exclude the cost of ADA compliance. In cases where federal rules or existing local ordinances require inclusion of specific provisions not the part of the safety improvements, the costs for those required elements may be excluded from the benefit/cost analysis to not negatively skew the results (e.g. Belgian block in lieu of standard concrete curb, special traffic signal poles to be consistent with existing streetscape materials and/or municipal master plans, etc.).

HSM and Benefit-Cost Documentation

Submittals must include:

- Relevant data of the segment or intersection
- Assumptions made in the HSM analysis
- Part C spreadsheet showing input data for the existing condition (one year only)
- Part C spreadsheet showing input data for the proposed condition (one year only)
- Tabulated summary of results showing yearly AADT, Predicted Crash Frequencies, Expected Crash Frequencies and/or Estimated Crash Frequencies for both the existing and proposed conditions
- Benefit/cost ratio spreadsheet

Samples of HSM calculations, benefit/cost analysis and HSM summary of results can be found in **Appendix F**. Contact your MPO for periodically changing input variables, such as crash costs. NOTE: It is the responsibility of the MPO and the Applicant to ensure that the HSM and benefit-cost analyses are conducted following the procedures and guidelines of the HSM prior to submitting the application. NJDOT cannot check analyses for accuracy and completeness. NJTPA and DVRPC will assist with the HSM analysis in collaboration with each

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applicant. In addition, SJTPO will prepare these analyses with the applicant once the data inputs spreadsheet is complete (attached to this application).

G. Right of Way (ROW)

All federally funded projects must upgrade sidewalks, curb ramps and driveway aprons within the project limits to meet ADA requirements. Often this results in the need for temporary construction easements from private property owners for upgrades to these existing facilities. Occasionally permanent easements are required for certain elements in a safety project such as drainage improvements or a retaining wall. Applicants are responsible for obtaining all required ROW consistent with NJDOT requirements even if design assistance services are being provided by the MPO. Applicants’ ROW process will be assessed as part of their agency’s LPA certification. A sample is provided in **Appendix D**.

H. Proposed Improvements/Preferred Alternative

Based on the crash and alternatives analyses (including HSM), provide a description of the improvements that are proposed for this project and outline the safety benefits expected. Some examples of improvement projects previously awarded funding through New Jersey’s LSP include:

- Pedestrian or bicyclist safety improvements such as textured pavement crosswalks, crosswalk striping and ADA compliant curb ramps;
- Intersection improvements including traffic signal upgrades, modified signal operations, left-turn bays, striping and pedestrian countdown signal heads;
- Improvements to roadway signage and pavement markings including reflective pavement markings;
- Installation or upgrade of traffic control or other warning devices to improve a documented safety hazard including traffic signals, pedestrian countdown signals, over-height vehicle detectors and signage;
- Installation of warning devices such as rumble strips/rumble stripes along high frequency crossover and/or roadway departure locations;
- Installation of a skid-resistant surface treatments at intersections or locations with a high frequency of crashes;
- Installation of a roundabout; and
- Road diets

SECTION 4

A. Community Involvement

Applicants must include public outreach as part of the development and construction authorization of these projects. Once a preferred alternative (i.e. concept plan) is developed, it needs to be presented to the public for comment. This can be accomplished through a presentation at a local municipal council meeting (in-person or virtual/online). Applicants are encouraged to obtain Resolutions of Support from affected municipalities. In addition, list any local or regional groups, organizations or individuals who may have an interest in the project because they are known to be knowledgeable about or interested in historic properties and/or may have an interest in the improvements proposed in this project.

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B. Community Impacts

Environmental Justice (EJ), Title VI of the Civil Rights Act of 1964, Limited English Proficiency (LEP), American Disability Act (ADA), Non-Discrimination Statutes, and Equity are distinct elements, but collectively, they contribute to an equitable transportation network. Together, EJ, Title VI, LEP, ADA and other nondiscrimination authorities protect diverse segments of the population which may be at risk of being unduly impacted by, or which have been historically underrepresented within the transportation decision-making process. This population group includes individuals in at least one of the following categories: Low Income, Minority, Elderly, Children, Limited English Proficiency, or Persons with Disabilities.

In an effort to ensure that no populations will be adversely affected by this project, explain whether the project will introduce any Title VI or Environmental Justice issues using EPA's Environmental Justice Screen Tool, local knowledge, and prior community involvement. Further, Equity in transportation seeks fairness in mobility and accessibility to meet the needs of all community members. This does not mean that all receive equal treatment. It means that circumstances impacting a community's mobility, connectivity and safety are considered and used to determine the measures needed to develop an equitable network.

Identify whether the project facilitates social and economic opportunities by providing equitable levels of access to affordable and reliable transportation options based on the needs of the populations being served, particularly populations that are traditionally underserved.

C. Preliminary Environmental Impacts

DVRPC/SJTPO Applicants Only: While a complete Environmental Screening will be conducted in Phase 2, it is important for the reviewers to know if there is the potential for involvement with environmental resources. A detailed analysis is not required in Phase 1. NJTPA Applicants should skip this subsection and proceed to Section 7.

SECTION 5

Project Funding and Anticipated Cost

Identify the Project Delivery Process Phases for which funding is being requested. Multiple phases can be selected since federal funding covers design, right-of-way acquisition, construction and construction inspection. If design assistance is also needed, please select Preliminary Engineering *and* Final Design. The federal fiscal year (FY) is October 1 through September 30 (i.e. FY 2018 is October 2017-September 2018). Provide a duration-based schedule. For example, Initial PSE submission - 12 months after award, CED - 15 months after award, etc. See **Appendix D** for examples.

Any changes in the scope of an HSIP funded project must be coordinated and approved by BSBPP in writing prior to advancement in design. As projects advance in from Preliminary Engineering (PE) to Final Design (FD) and finally to Construction, BSBPP should be contacted so that the HSIP Spending Plan reflects the current investments and schedule. If safety measures provided in the project are reduced or eliminated as phases progress, the project may no longer be HSIP eligible.

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SECTION 6 & 8

A. Submission Instructions

Up to two (2) LSP applications may be submitted per Applicant. There is no limitation on the number of applications that can be submitted for the HRRRP.

All applications must be submitted electronically.

Applications should be emailed to the indicated MPO representative. Alternatively, digital applications may be submitted by CD or DVD to the addresses below. Applicants with multiple applications should place each application with all required attachments in separate folders.

MPO	Submit via Email	Submit CD/DVD via Mail
DVRPC	kmurphy@dvrpc.org	Delaware Valley Regional Planning Commission NEW JERSEY HSIP LOCAL SAFETY PROGRAM 190 N Independence Mall West, 8th floor Philadelphia, PA 19106-1520 Attn: Kevin Murphy
NJTPA	cmittman@njtpa.org	NJTPA Local Safety Program/ High Risk Rural Roads Program North Jersey Transportation Planning Authority 1085 Raymond Blvd. One Newark Center, 17th floor Newark, NJ 07102 Attention: Christine Mittman
SJTPO	ahuff@sjtpo.org *	South Jersey Transportation Planning Organization 782 South Brewster Road, Unit B6 Vineland, NJ 08361 Attn: Alan Huff

*Alternatively, to avoid issues with submitting large files, please email ahuff@sjtpo.org to gain access to SJTPO’s FTP site.

MPO Submission to NJDOT

Please submit all applications electronically.

SECTION 7

A. Environmental Screening – General

The [Federal National Environmental Policy Act \(NEPA\)](#) regulations must be followed. Projects should have minimal or no environmental and cultural resource impacts and therefore be eligible for a [NEPA categorical exclusion \(CE or CX\)](#) document approval. A list of Programmatic Categorical Exclusions is in **Appendix E** and a

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list of useful Environmental Websites is in **Appendix G**. No field testing or sampling of any kind is needed in order to answer the following questions.

This section also requests project information regarding drainage, stormwater management, right of way, residential, business and/or public facilities impacts. If this information is not known at the time of applying, note this in Section H. Please also identify the buffer area used to determine the answers to Sections B-G. This is an area is typically the area immediately surrounding project alternatives. Depending on the nature of the project, the buffer area could be as small as an area extending 250 feet on either side of the proposed project corridor or up to a ¼ or even a ½ mile from the project corridor.

NOTE: Please attach either a USGS map or NJDEP map showing the project location, limits, and all environmental parameters (e.g., wetlands, historic properties) relevant to your project, based on the checklist above. Please also include route/street names and mileposts.

B. Cultural Resources

Please indicate whether any historical properties and/or structures or archeological sites are in the project area. Please indicate whether there will be any use of land from historic sites. An explanation is required for all Yes or TBD answers as well as noted historical sites.

C. Ecology

Please list and provide an explanation of any environmentally sensitive areas within the project limits. Check the special protection areas, other conditions, and type of water bodies near the project site. Indicate whether there will be any use of land from parkland; recreation areas; wildlife or waterfowl; or federal lands in the project area.

D. Landscape Architecture

Please indicate whether reforestation or vegetation management will be required for the project. Identify subsurface conditions. This section may also serve to identify whether there is a current or future need for vegetation management if project advances. An explanation is required for all Yes or TBD answers.

E. Air and Noise

Please indicate whether any sensitive receptors are in the project area. An explanation is required for all Yes or TBD answers.

F. Socioeconomics

Please indicate whether any community facilities are in the project area. Provide the community profile for the noted groups. Additional breakdown on minority and linguistically isolated is encouraged. An explanation is required for any Yes answers.

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G. Hazardous Waste

Please indicate whether there are any hazardous sites, active or abandoned industries, service stations, repair shops, soil contamination, or railroads or rail yards in the project area. An explanation is required for all Yes or TBD answers. *NOTE: See Guidelines Section 2C for [NJDOT's Railroad Engineering and Safety Unit information](#).*

H. Anticipated NEPA Document

Applicants are encouraged to submit projects with minimal or no environmental and cultural resource impacts and are therefore eligible for a [NEPA categorical exclusion \(CE or CX\)](#) document approval.

Identify the anticipated environmental document. Definitions of each are summarized below and can be found at the [NEPA Documents website](#).

- Certified Categorical Exclusion Document (CCED) – actions that do not individually or cumulatively have a significant effect on the human environment, and do not require environmental permits.
- Categorical Exclusion Document (CE) – actions that do not individually or cumulatively have a significant effect on the human environment but require environmental permits.

I. Environmental Screening Summary

Provide additional comments to Sections A-G as needed to clarify any answers. Please be brief.

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Appendix A

Scoring Criteria

PROJECT SCORING FORM

Reviewer: Click or tap here to enter text.

Date: Click or tap to enter a date.

Project Name: Click or tap here to enter text.

Project Location: Click or tap here to enter text.

Municipality(s): Click or tap here to enter text. County or Counties: Click or tap here to enter text.

Project Sponsor: Click or tap here to enter text.


Urban

Rural

Factor	Possible Points	Project Score
1. Priority Crash Location (select <u>one</u> of the options below):		
a. Project location has a County rank of 1-5 on one of the Network Screening Lists	15	
b. Project location has a County rank of 6-10 on one of the Network Screening Lists	10	
c. Project location has a County rank of 10-25 on one of the Network Screening Lists	5	
d. Project location appears on a network screening (any rank) <i>and</i> has had another study (e.g. RSA, RSS, CCSAP or county-funded or led effort) completed.	8	
e. Project location had another study (e.g. RSA, CCSAP or county-funded or led effort) completed <i>but is not</i> on any Network Screening List.	4	
2. Alternatives Analysis / Proposed Improvements (select any that are applicable):		
a. Applicants demonstrated that multiple alternatives were investigated to select a preferred alternative.	8	
b. Pedestrian/Bicyclist improvements identify the fundamental link between the proposed improvements and underlying risk factor(s).	10	
c. Systemic improvements include a list of locations identified with one or more risk factors and/or demonstrated crash history.	5	
d. Project applications that are construction ready (PS&E, all permits approved, all ROW acquired)	6	
Alternatives Total		xx
3. Potential for safety benefit (select <u>one</u> of the options below; option d on following page):		
a. Project demonstrates a high potential for safety benefit; Benefit/Cost (B/C) ratio exceeds 3.0	10	
b. Project demonstrates a moderate potential for safety benefit; B/C ratio between 1.0 and 3.0	6	
c. Project could not conduct HSM and B/C ratio could not be calculated, but applicant demonstrates a high potential for safety benefits.	10	

Factor	Possible Points	Project Score
d. Project could not conduct HSM and B/C ratio could not be calculated, but applicant demonstrates a moderate potential for safety benefits.	6	
Safety Benefit Total		xx
4. Bonus points (select any that are applicable):		
a. Projects that include pedestrian and/or intersection upgrades	3	
b. Project includes recommendations from a previously sponsored Road Safety Audit, Road Safety Scan, Walkable Community Workshop, CCSAP or the like	1	
c. Project incorporates any FHWA Proven Safety Countermeasure; 1 point for one countermeasure, 2 points for two or more countermeasures	1-2	
d. An Environmental Justice screening was performed for the project area.	2	
e. Project addresses an identified equity issue or is located in a historically underserved community.	2	
Bonus Total		xx
Crash Location + Alternatives Total + Safety Benefit Total + Bonus Total		xx

Comments and/or Concerns:



Appendix B

Activity Tracker

ACTIVITY TRACKER/COMMENT RESOLUTION SUMMARY

Project Name: Click or tap here to enter text.

Project Sponsor: Click or tap here to enter text.

Municipality(s): Click or tap here to enter text.

County or Counties: Click or tap here to enter text.

Instructions: Reviewer to complete the first four columns (purple). Applicant to complete the last four columns (blue) in response to the reviewers' comment(s). **Additional rows can be added.**

No.	Date	Section	Comment	Comment By	Response	Response By	Resolution	Resol. Date
1	Click or tap to enter a date.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Choose an item.	Click or tap to enter a date.
2	Click or tap to enter a date.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Choose an item.	Click or tap to enter a date.
3	Click or tap to enter a date.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Choose an item.	Click or tap to enter a date.
4	Click or tap to enter a date.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Choose an item.	Click or tap to enter a date.
5	Click or tap to enter a date.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Choose an item.	Click or tap to enter a date.



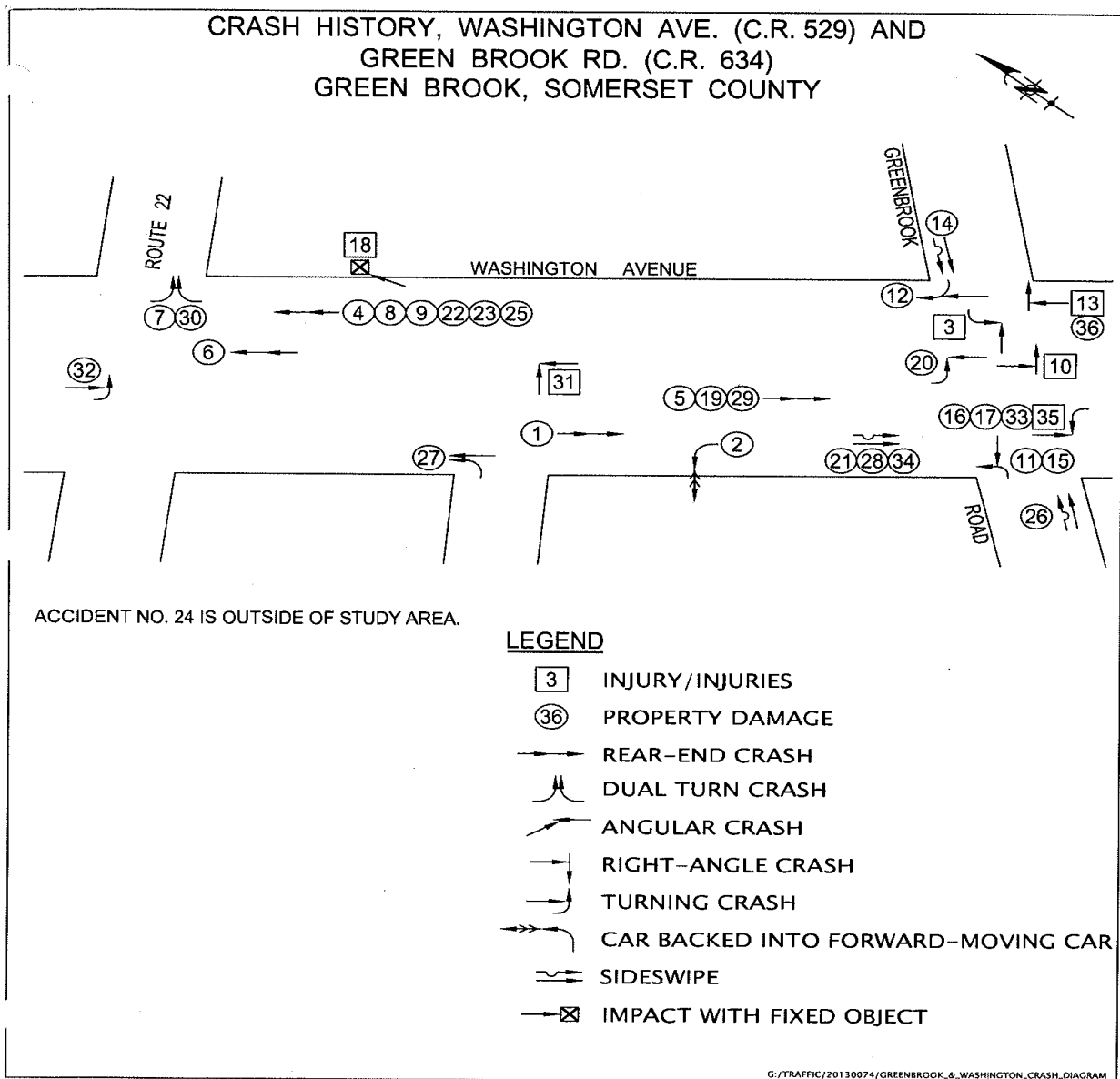
Appendix C

Sample Crash Diagram

SAMPLE CRASH DIAGRAM

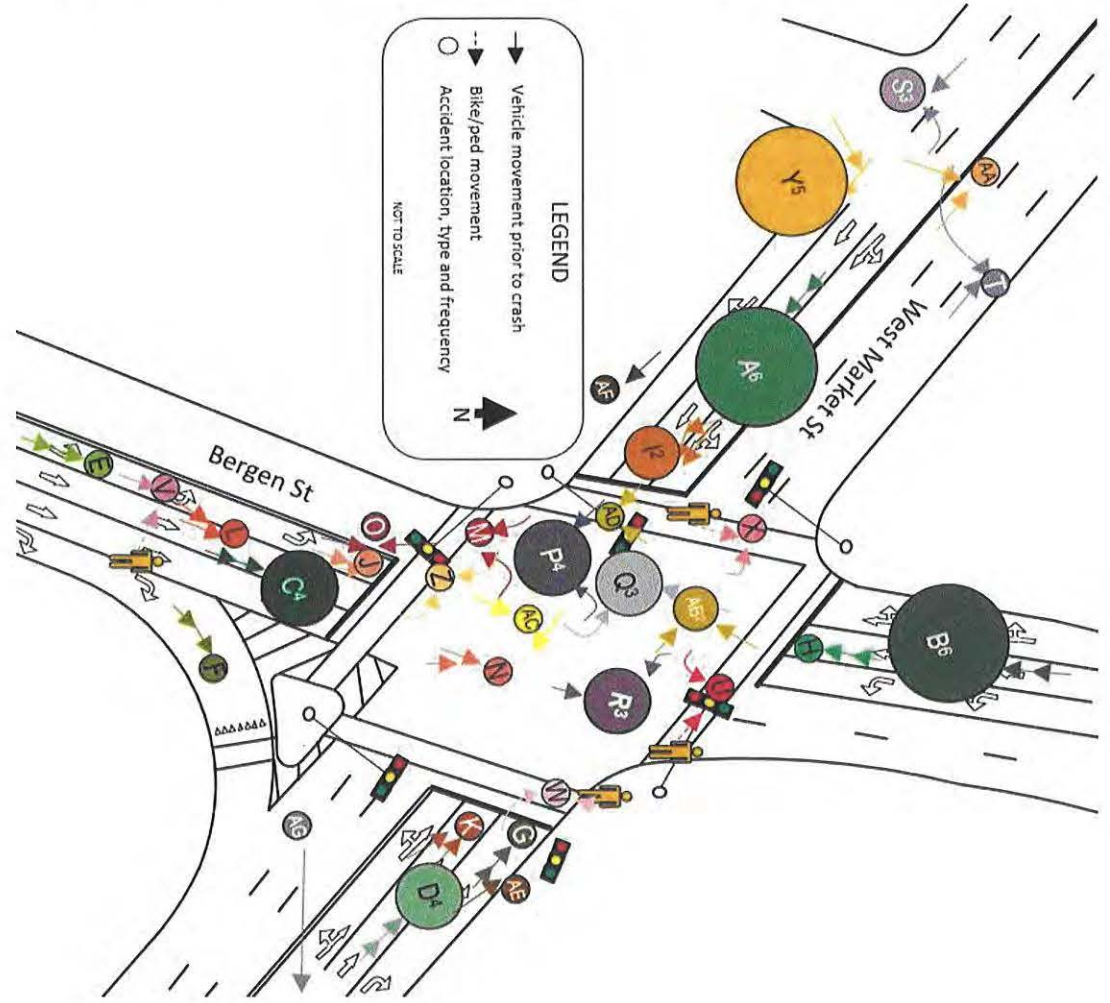
In the five years (2009-2013) of data examined there were 307 crashes recorded on Mt. Ephraim Avenue. Below, relevant collision type distributions are noted:

- 25% of crashes were same direction rear end
- 17% of crashes included a right angle turning movement
- 11% of crashes were same direction side swipes
- 6% of crashes involved pedestrians
- 5% of crashes involved bicyclists



West Market Street & Bergen Street

Same Direction - Rear End				Left Turn / U Turn			
A 2/6/09	9:49 AM	O		P 11/12/09	6:35 AM	B	Labelled as "right angle" in report
A 5/29/09	11:45 AM	O		P 6/25/10	7:10 PM	B	
A 6/9/09	5:20 PM	B		P 8/3/10	1:21 PM	B	
A 6/28/09	2:41 AM	B		P 3/16/11	4:48 PM	B	
A 3/12/10		O		Q 7/1/09	3:28 PM	B	
A 1/17/09	9:35 PM	O	Struck vehicle had stopped for EMS	Q 2/18/11	5:34 PM	B	
B 2/19/09	10:10 AM	O		Q 12/9/11	2:50 PM	O	
B 3/31/10	10:57 AM	O		Q 2/13/09	7:56 PM	O	
B 8/14/10	8:45 PM	O	Ice inhibited stop	R 7/11/09	11:50 PM	B	
B 1/18/11	8:20 AM	O	Ice inhibited stop	R 9/28/11	7:00 AM	B	
B 10/25/11	12:05 PM	O	Striking vehicle was being pursued by police	S 4/16/10	8:30 AM	O	
B 4/4/09	5:35 PM	B	Striking vehicle was being pursued by police	S 10/3/11	2:26 PM	B	Labelled as "right angle" in report
C 1/20/09	6:15 PM	O	Ice inhibited stop	S 6/15/09	8:57 AM	B	
C 1/21/09	2:13 PM	O		T 12/9/10	7:10 AM	O	
C 3/6/09	10:26 AM	O		U 9/16/11	4:40 PM	B	2 girls ran across street to catch bus
C 7/12/10	4:45 PM	O		U 12/16/10		B	Pod ran across street to catch bus
D 8/30/09	2:30 AM	B		W 5/28/09	4:55 PM	B	Speed to catch bus
D 12/10/09	4:22 PM	O		X 12/12/11	4:43 PM	B	
D 4/20/11	5:27 PM	O	Struck vehicle had stopped for EMS	Y 8/21/09	5:05 PM	O	Crash due to wiper
D 5/13/09	2:10 PM	B		Y 1/5/11	11:45 AM	O	
E 11/11/11	5:18 PM	O		Z 4/27/10	10:00 PM	O	McDonald's parking lot being received
F 9/8/09	8:26 AM	B		AB 10/27/10	5:14 PM	B	Emergency vehicle struck car that failed to stop
G 5/16/09	12:00 PM	O		AC 5/4/09	3:22 PM	O	Striking vehicle was emergency vehicle and bus had blocked view
G 4/13/09	5:25 PM	O		AD 4/7/09	8:00 AM	B	
Same Direction - Side Swipe				Right Angle			
I 5/10/10	12:50 PM	O		Y 1/29/09	4:20 PM	B	
I 2/17/11	10:00 PM	O	Bus involved	Y 5/5/09	4:30 PM	B	
J 9/28/09	8:30 AM	O	Striking vehicle was being pursued by police	Y 8/21/09	5:05 PM	O	Crash due to wiper
K 1/11/11	3:03 PM	O		Y 11/20/09	11:31 AM	B	
L 1/30/10	9:00 PM	O		Y 1/5/11	11:45 AM	O	
M 7/30/10	1:20 AM	B		Z 4/27/10	10:00 PM	O	McDonald's parking lot being received
Opposite Direction - Head On/Angular				Left Turn / U Turn			
M 7/14/10	9:37 AM	O	Bus involved	AB 10/27/10	5:14 PM	B	Emergency vehicle struck car that failed to stop
O 1/14/09	3:15 PM	O		AC 5/4/09	3:22 PM	O	Striking vehicle was emergency vehicle and bus had blocked view



*Crash severity uses KABCO scale: K-Fatal, A-Incapacitating Injury, B-Non-Incapacitating Injury, C-Possible Injury, O-Property damage only



Appendix D

Sample Statements and Schedule

SECTION 2D

Sample Purpose and Need Statement

Purpose: The purpose of the project is to enhance safety and mobility along Project Route between Start Street and End Avenue.

Need: Two of the signalized intersections within the project limits are identified on the Network Screening Intersection List – Project Route and First Street (MP 38.31) is ranked #27 and Project Route and N. Second Avenue (MP 38.46) is ranked #79. In addition, the crash analysis for the project segment indicates a total of 500 crashes with overrepresentations of angle, head-on, left/U-turn, pedestrian/bicycle, at intersection, wet surface, day and dusk. Of note, one (1) fatal pedestrian crash occurred in 2016 near MP 39.63. The following general issues were noted within the corridor:

- Traffic signals lack 12-inch signal heads, backplates with retro reflective borders, countdown pedestrian signal heads, ADA compliant curb ramps and/or are not in conformance with the 2009 MUTCD
- Many signalized and unsignalized intersections have insufficient illumination at night
- Lack of bicyclist facilities

Goals/Objectives: It is the goal of this project to improve safety while minimizing environmental, quality of life, access, right of way and utility impacts. It is anticipated that improvements will not further degrade any deficient conditions within the project limits. Any proposed improvements will consider impacts to emergency services and disadvantaged groups.

SECTION 3F

Sample HSM and Benefit-Cost Analysis Statement

Analysis Summary: An HSM analysis was performed on the alternatives. The analysis for this section of Project Route indicates an average crash reduction of 6% per year by implementing a road diet (Alternative No. 1) with a B/C ratio of 1.1. The crash reduction would likely be more apparent in the western section of Project Route since it has significantly more left turn, right angle and overall crashes versus the eastern section. Alternative No. 2 receives a crash reduction of about 14% per year with a B/C ratio of 2.0.

Other Information: An HSM analysis could not be performed on the alternatives because there were not CMFs for the selected countermeasures at the time of this application. However, Case Study XYZ, which implemented countermeasure A, realized a 10% reduction in crashes over 5 years (Source). In addition, available research compiled by NHTSA indicates that countermeasures B and C are shown to enhance safety are effective in reducing injuries by up to 50% (Source).

SECTION 3G

Sample Right of Way Statement

Right of way will be required from up to 13 properties for sidewalk installation, driveway modifications, and signal replacement. This project primarily requires slope and temporary easements totaling approximately 500 SF. Right of way and parcel information is based on available as-built plans, tax maps and GIS data; therefore, all areas are approximate. Once a detailed survey and deed information is obtained, it may be possible to refine some of the proposed improvements such that they remain within the existing right of way.

Preliminary Project Schedule Example 1 (Preferred)

Applicant Name

Project:

Date Prepared:

Task	Year 1			Year 2														
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Jun	Jul	Aug	Sep	Oct	July	Nov	Dec	
Authorization to Proceed with Design	x																	
Base Mapping																		
Construction Plans																		
Traffic Control Plan																		
Specifications																		
Engineer's Estimate																		
Preliminary PS&E Submission																		
Preliminary NJDOT Review																		
Response to NJDOT Comments																		
Final PS&E Submission																		
Final NDOT Review																		
Authorization to Proceed with Construction																		
Construction																		

Assumes Authorization to Proceed with Design received in October.

Preliminary Project Schedule Example 2 (Alternate)

Task	Duration
Authorization to Proceed with PE	1 day
Preliminary EGINEERING	12 months
Basemapping	2 months
Preliminary Plans, CED, Outreach	10 months
Authorization to Proceed with Design	1 day
Final Design	15 months
Preliminary PS&E Submission	1 day
Preliminary NJDOT Review	1 month
Response to NJDOT Comments	2 months
Final PS&E Submission	1 day
Final NDOT Review	2 months
Authorization to Proceed with Construction	1 day
Construction	6 months



Appendix E

Categorical Exemptions

**PROGRAMMATIC AGREEMENT
BETWEEN THE FEDERAL HIGHWAY ADMINISTRATION, NEW JERSEY DIVISION
AND
THE NEW JERSEY DEPARTMENT OF TRANSPORTATION
REGARDING THE PROCESSING OF ACTIONS CLASSIFIED AS CATEGORICAL
EXCLUSIONS FOR FEDERAL-AID PROJECTS**

THIS PROGRAMMATIC AGREEMENT ("Agreement"), made and entered into this 8th day of December 2015, by and between the FEDERAL HIGHWAY ADMINISTRATION, UNITED STATES DEPARTMENT OF TRANSPORTATION ("FHWA"), and the STATE of NEW JERSEY, acting by and through its DEPARTMENT OF TRANSPORTATION ("NJDOT"), hereby provides as follows:

WITNESSETH:

Whereas, the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. §§ 4321-4370h (2014), and the Regulations for Implementing the Procedural Provisions of NEPA (40 CFR parts 1500-1508) direct Federal agencies to consider the environmental impacts of their proposed major Federal actions through the preparation of an environmental assessment (EA) or environmental impact statement (EIS) unless a particular action is categorically excluded;

Whereas, the FHWA's distribution and spending of Federal funds under the Federal-aid Highway Program and approval of actions pursuant to Title 23 of the U.S. Code are major Federal actions subject to NEPA;

Whereas, the Secretary of Transportation has delegated to FHWA the authority to carry out functions of the Secretary under NEPA as they relate to matters within FHWA's primary responsibilities (49 CFR 1.81(a)(5));

Whereas, the FHWA's NEPA implementing procedures (23 CFR part 771) list a number of categorical exclusions (CE) for certain actions that FHWA has determined do not individually or cumulatively have a significant effect on the human environment and therefore do not require the preparation of an EA or EIS;

Whereas, NJDOT is a State agency that undertakes transportation projects using Federal funding received under the Federal-aid Highway Program and must assist FHWA in fulfilling its obligations under NEPA for NJDOT projects (23 CFR 771.109);

Whereas, Section 1318(d) of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Pub. L. 112-141, 126 Stat. 405 (July 6, 2012), allows FHWA to enter into programmatic agreements with the States that establish efficient administrative procedures for carrying out environmental and other required project reviews, including agreements that allow a State to determine whether a project qualifies for a CE on behalf of FHWA; and

Whereas, FHWA developed regulations implementing the authorities in Section 1318(d), effective November 6, 2014;

Now, therefore, FHWA and NJDOT enter into this Agreement for the processing of CEs.

I. PARTIES

The Parties to this Agreement are FHWA and NJDOT.

II. PURPOSE

The purpose of this Agreement is to authorize NJDOT to determine on behalf of FHWA whether a project qualifies for a CE specifically listed in 23 CFR 771.117 (listed in Appendices A-B of this Agreement). This Agreement also authorizes NJDOT to certify to FHWA that an action not specifically listed in 23 CFR 771.117, but meeting the CE criteria in 40 CFR 1508.4 and 23 CFR 771.117(a), qualifies for a CE as long as there are no unusual circumstances present that would require the preparation of either an EA or EIS.

III. AUTHORITIES

This Agreement is entered into pursuant to the following authorities:

- A. National Environmental Policy Act, 42 U.S.C. §§ 4321-4370
- B. Moving Ahead for Progress in the 21st Century Act, P.L. 112-141, 126 Stat. 405, Sec. 1318(d)
- C. 40 CFR parts 1500 – 1508
- D. DOT Order 5610.1C
- E. 23 CFR 771.117

IV. RESPONSIBILITIES

A. NJDOT is responsible for:

- 1. Ensuring the following process is completed for each project that qualifies for a CE:
 - a. For actions qualifying for a CE listed in Appendix A (CEs established in 23 CFR 771.117(c) and Appendix B (CEs established in 23 CFR 771.117(d)), that do not exceed the thresholds in Section IV(A)(1)(b) below, NJDOT may make a CE approval on behalf of FHWA. NJDOT will identify the applicable listed CE, ensure any conditions or constraints are met, verify that unusual circumstances do not apply, address any and all other environmental requirements, and complete the review with a signature evidencing approval. No separate review or approval of the CE by FHWA is required.
 - b. Actions listed in Appendices A-B that exceed the thresholds may not be approved by NJDOT. NJDOT may certify to FHWA that the action qualifies for a CE. An

action requires FHWA CE review and approval based on the NJDOT certification if the action:

- i. Involves acquisitions that result in residential or non-residential displacements;
- ii. Results in capacity expansion of a roadway by addition of through lanes;
- iii. Involves the construction of temporary access, or the closure of existing road, bridge, or ramps, that would result in major traffic disruptions;
- iv. Involves changes in access control;
- v. Results in a determination of adverse effect on historic properties pursuant to Section 106 of the National Historic Preservation Act;
- vi. Requires the use of properties protected by Section 4(f) of the Department of Transportation Act (49 U.S.C. § 303) that cannot be documented with an FHWA *de minimis* determination, or a programmatic Section 4(f) evaluation other than the programmatic evaluation for the use of historic bridges;
- vii. Requires the acquisition of lands under the protection of Section 6(f) of the Land and Water Conservation Act of 1965, the Federal Aid in Fish Restoration Act, the Federal Aid in Wildlife Restoration Act, or other unique areas or special lands that were acquired in fee or easement with public-use money and have deed restrictions or covenants on the property;
- viii. Requires a U.S. Army Corps of Engineers Section 404 permit other than a Nationwide Permit or a General Permit;
- ix. Requires a U.S. Coast Guard bridge permit;
- x. Involves floodplain encroachment pursuant to Executive Orders 11988 and 13690 other than functionally dependent uses (e.g., bridges, wetlands) or actions that facilitate open space use (e.g., recreational trails, bicycle and pedestrian paths);
- xi. Requires construction in, across, or adjacent to a river designated as a component of, or proposed for inclusion in, the National System of Wild and Scenic Rivers published by the U.S. Department of the Interior/U.S. Department of Agriculture;
- xii. Is defined as a "Type I project" per 23 CFR 772.5 and any NJDOT noise manual for purposes of a noise analysis;

- xiii. Involves a finding of, “may affect, likely to adversely affect” federally listed or candidate species, or proposed or designated critical habitat, or projects with impacts subject to the conditions of the Bald and Golden Eagle Protection Act;
 - xiv. Includes acquisition of land for hardship or protective purposes, or early acquisition pursuant to a Federal acquisition project (23 U.S.C. § 108(d));
 - xv. Does not conform to the State Implementation Plan which is approved or promulgated by the U.S. Environmental Protection Agency in air quality non-attainment areas;
 - xvi. Is not included in or is inconsistent with the statewide transportation improvement program, and in applicable urbanized areas, the transportation improvement program; or
 - xvii. Is not consistent with the State’s Coastal Zone Management Plan.
- c. NJDOT may not approve actions that meet the requirements of a CE under 40 CFR 1508.4 and 23 CFR 771.117(a) but are not specifically listed as CEs in 23 CFR 771.117. Instead, NJDOT shall certify that an action will not result in significant environmental impacts if NJDOT concludes that the action qualifies for a CE and the action does not involve unusual circumstances that warrant the preparation of an EA or EIS. NJDOT shall submit this certification to FHWA for approval prior to the time FHWA contemplates its next approval or grant action for the project.
- i. If requested by the Division Office, NJDOT shall provide a copy of the CE documentation prepared for the actions(s) in accordance with Section V of this Agreement.
 - ii. If any project requires a Section 4(f) *de minimis* determination or programmatic evaluation, NJDOT shall submit the 4(f) documentation for FHWA determination and approval.
 - iii. NJDOT may request notice to proceed with final design, acquisition of right-of-way, or construction from FHWA once NJDOT receives approval from FHWA on projects it has certified as a CE.
 - iv. The Division Office’s objection to a NJDOT certification may not constitute a disapproval of the action, but signifies that FHWA will need to engage in project-specific review to verify that the certification is adequate, which may include consultation with other agencies.
2. Providing a list of certified actions, pursuant to this Agreement to the Division Office semi-annually. The list of actions certified will contain the following information:

- a. The NJDOT project number and/or a project name; including the route number or facility name where the project will occur;
 - b. Identification of the CE action listed in the regulation, or, if the action is not listed in 23 CFR 771.117, identification of the process as "CE not categorized"; and
 - c. Whether the project included a 4(f) *de minimis* or programmatic evaluation.
3. Consulting with FHWA for actions that involve unusual circumstances (23 CFR 771.117(b)), to determine the appropriate class of action for environmental analysis and documentation. NJDOT may decide to have, or FHWA may require, additional studies be performed prior to making a CE approval, or the preparation of an EA or EIS.
 4. Meeting applicable documentation requirements in Section V for State CE approvals on FHWA's behalf and State CE certifications to FHWA, applicable approval and re-evaluation requirements in Section VI, and applicable quality control/quality assurance, monitoring, and performance requirements in Section VII.
 5. Relying only upon employees directly employed by the State to make CE approvals or certifications submitted to FHWA under this Agreement. NJDOT may not delegate its responsibility for CE approvals or certifications to third parties (i.e., consultants, local government staff, and other State agency staff).

B. FHWA is responsible for:

1. Providing timely advice and technical assistance on CEs to NJDOT, as requested.
2. Providing timely input and review of certified actions. FHWA will base its approval of CE actions on the project documentation and certifications prepared by NJDOT under this Agreement.
3. Overseeing the implementation of this Agreement in accordance with the provisions in Section VII, including applicable monitoring and performance provisions.

V. DOCUMENTATION OF NJDOT CE APPROVALS AND CERTIFICATIONS

- A. For State CE approvals and State CE certifications to FHWA for approval, NJDOT shall insure that it fulfills the following responsibilities for documenting the project-specific determinations made:
1. For actions listed in Appendices A-B, NJDOT shall identify the applicable action, ensure any conditions specified in FHWA regulation are met, verify that unusual circumstances do not apply, address all other environmental requirements, and complete the review with a NJDOT signature evidencing approval.

2. In addition, for actions listed in 23 CFR 711.117(d), NJDOT shall prepare documentation that supports the CE determination and finding that no unusual circumstances exist that would make the CE approval inappropriate.
- B. NJDOT should maintain a project record for CE approvals it makes on FHWA's behalf and each CE submitted to FHWA for approval. This record should include at a minimum:
1. Any checklists, forms, or other documents and exhibits that summarize the consideration of project effects and unusual circumstances;
 2. A summary of public involvement complying with the requirements of FHWA-approved public involvement policy;
 3. Any stakeholder communication, correspondence, consultation, or public meeting documentation;
 4. The name and title of the document approver and the date of NJDOT's approval or FHWA's final approval; and
 5. For cases involving re-evaluations, any documented re-evaluation (when required) or a statement that a re-evaluation was completed for the project (when documentation is not necessary).
- C. Any electronic or paper project records maintained by NJDOT should be provided to FHWA at its request. NJDOT should retain those records, including all letters and comments received from governmental agencies, the public, and others for a period of no less than three (3) years after completion of project construction. This three (3)-year retention provision does not relieve NJDOT of its project or program recordkeeping responsibilities under 2 CFR 200.333 or any other applicable laws, regulations, or policies.

VI. NEPA APPROVALS AND RE-EVALUATIONS

- A. The NJDOT's CE approvals and CEs submitted to FHWA for approval may only be made by officers or offices specifically identified below:
1. Approval of Appendix A CEs is delegated to the Division of Environmental Resources and the Bureau of Landscape Architecture and Environmental Solutions.
 2. Approval of Appendix B CEs is delegated to the Division of Environmental Resources and the Bureau of Landscape Architecture and Environmental Solutions.
 3. Certification of CEs is delegated to the Division of Environmental Resources and the Bureau of Landscape Architecture and Environmental Solutions.

- B. NJDOT shall submit a Categorical Exclusion Documentation form for actions that it certifies as meeting the CE requirements, for FHWA approval. FHWA will either approve or respond to NJDOT with comments within 30 days of receipt of the documentation.
- C. In accordance with 23 CFR 771.129, NJDOT shall re-evaluate its determinations and certifications for projects, consult with FHWA as necessary, and prepare documentation to ensure that determinations are still valid. These re-evaluations will be completed when project changes have occurred and/or other project milestones have been reached. These milestones shall be considered authorization requests for funding of various stages in the project development process, e.g., Design, ROW, Utilities and Construction.

VII. QUALITY CONTROL/QUALITY ASSURANCE, MONITORING & PERFORMANCE

A. NJDOT Quality Control & Quality Assurance

NJDOT agrees to carry out regular quality control and quality assurance activities to ensure that its CE approvals and CE submissions to FHWA for approval are made in accordance with applicable law and this Agreement.

B. NJDOT Performance Monitoring and Reporting.

1. FHWA and NJDOT shall cooperate in monitoring performance under this Agreement and work to assure quality performance.
2. NJDOT shall annually submit to FHWA (electronically or hard copy) a report summarizing its performance under this Agreement. The report will identify any areas where improvement is needed and what measures NJDOT is taking to implement those improvements. The report will include a description of actions taken by NJDOT as part of its quality control efforts under Section VII(A).

C. FHWA Oversight and Monitoring

1. Monitoring by FHWA will include consideration of the technical competency and organizational capacity of NJDOT, as well as NJDOT's performance of its CE processing functions. Performance considerations include, without limitation, the quality and consistency of NJDOT's CE approvals, CE submissions to FHWA for approval, adequacy and capability of NJDOT staff and consultants, and the effectiveness of NJDOT's administration of its internal CE approvals.
2. FHWA will conduct one or more program reviews as part of its oversight activities, during the term of this Agreement. NJDOT shall prepare and implement a corrective action plan to address any findings or observations identified in the FHWA review. NJDOT shall draft the corrective action plan (if needed) within forty-five (45) days of

FHWA's finalizing its review. The results of that review and corrective actions taken by NJDOT shall be considered at the time this Agreement is considered for renewal.

3. Nothing in this Agreement prevents FHWA from undertaking other monitoring or oversight actions, including audits, with respect to NJDOT's performance under this Agreement. FHWA may require NJDOT to perform such other quality assurance activities, including other types of monitoring, as may be reasonably required to ensure compliance with applicable Federal laws and regulations.
4. NJDOT agrees to cooperate with FHWA in all oversight and quality assurance activities.

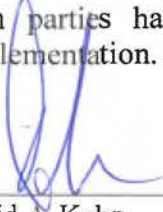
VIII. AMENDMENTS

If the parties agree to amend this Agreement, then FHWA and NJDOT may execute an amendment with new signatures and dates of the signatures. The term of this Agreement shall remain unchanged unless otherwise expressly stated in the amended Agreement.

IX. TERM, RENEWAL, AND TERMINATION

- A. This Agreement shall have a term of five (5) years, effective on the date of the last signature. NJDOT shall post and maintain an executed copy of this Agreement on its website, available to the public.
- B. This Agreement is renewable for additional five (5)-year terms if NJDOT requests renewal and FHWA determines that NJDOT has satisfactorily carried out the provisions of this Agreement. In considering any renewal of this Agreement, FHWA will evaluate the effectiveness of this Agreement and its overall impact on the environmental review process.
- C. Either party may terminate this Agreement at any time only by giving at least thirty (30) days' written notice to the other party.
- D. Expiration or termination of this Agreement shall mean that NJDOT is not able to make CE approvals on FHWA's behalf.

Execution of this Agreement and implementation of its terms by both parties provides evidence that both parties have reviewed this Agreement and agree to the terms and conditions for its implementation. This Agreement is effective upon the date of the last signature below.



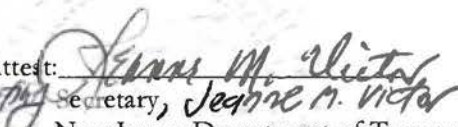
David A. Kuhn
Asst. Commissioner, Capital Investment,
Planning & Grant Administration
New Jersey Department of Transportation



Robert Clark
Division Administrator, NJ Division
Federal Highway Administration

Date: 11-24-15

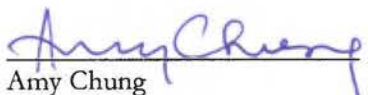
Date: 11-30-15

Attest: 
Acting Secretary, Jeanne M. Victor
New Jersey Department of Transportation

Attest: 

Approved as to form:

JOHN J. HOFFMAN
ACTING ATTORNEY GENERAL OF NEW JERSEY

By: 
Amy Chung
Deputy Attorney General

Date: 11/17/15

Appendix A

CEs Established in 23 CFR 771.117(c)

- (1) Activities which do not involve or lead directly to construction, such as planning and research activities; grants for training; engineering to define the elements of a proposed action or alternatives so that social, economic, and environmental effects can be assessed; and Federal-aid system revisions which establish classes of highways on the Federal-aid system.
- (2) Approval of utility installations along or across a transportation facility.
- (3) Construction of bicycle and pedestrian lanes, paths, and facilities.
- (4) Activities included in the State's highway safety plan under 23 U.S.C. § 402.
- (5) Transfer of Federal lands, pursuant to 23 U.S.C. § 107(d) and/or 23 U.S.C. § 317 when the land transfer is in support of an action that is not otherwise subject to FHWA review under NEPA.
- (6) The installation of noise barriers or alterations to existing publicly owned buildings to provide for noise reduction.
- (7) Landscaping.
- (8) Installation of fencing, signs, pavement markings, small passenger shelters, traffic signals, and railroad warning devices where no substantial land acquisition or traffic disruption will occur.
- (9) The following actions for transportation facilities damaged by an incident resulting in an emergency declared by the Governor of the State and concurred in by the Secretary, or a disaster or emergency declared by the President pursuant to the Robert T. Stafford Act (42 U.S.C. § 512):
 - (i) Emergency repairs under 23 U.S.C. § 125; and
 - (ii) The repair, reconstruction, restoration, retrofitting, or replacement of any road, highway, bridge, tunnel, or transit facility (such as a ferry dock or bus transfer station), including ancillary transportation facilities (such as pedestrian/bicycle paths and bike lanes), that is in operation or under construction when damaged and the action:
 - (A) Occurs within the existing right-of-way and in a manner that substantially conforms to the preexisting design, function, and location as the original (which may include upgrades to meet existing codes and standards as well as upgrades warranted to address conditions that have changed since the original construction); and
 - (B) Is commenced within a two (2)-year period beginning on the date of the declaration.
- (10) Acquisition of scenic easements.

- (11) Determination of payback under 23 U.S.C. § 156 for property previously acquired with Federal-aid participation.
- (12) Improvements to existing rest areas and truck weigh stations.
- (13) Ridesharing activities.
- (14) Bus and rail car rehabilitation.
- (15) Alterations to facilities or vehicles in order to make them accessible for elderly and handicapped persons.
- (16) Program administration, technical assistance activities, and operating assistance to transit authorities to continue existing service or increase service to meet routine changes in demand.
- (17) The purchase of vehicles by the applicant where the use of these vehicles can be accommodated by existing facilities or by new facilities which themselves are within a CE.
- (18) Track and railbed maintenance and improvements when carried out within the existing right-of-way.
- (19) Purchase and installation of operating or maintenance equipment to be located within the transit facility and with no significant impacts off the site.
- (20) Promulgation of rules, regulations, and directives.
- (21) Deployment of electronics, photonics, communications, or information processing used singly or in combination, or as components of a fully integrated system, to improve the efficiency or safety of a surface transportation system or to enhance security or passenger convenience. Examples include, but are not limited to, traffic control and detector devices, lane management systems, electronic payment equipment, automatic vehicle locaters, automated passenger counters, computer-aided dispatching systems, radio communications systems, dynamic message signs, and security equipment including surveillance and detection cameras on roadways and in transit facilities and on buses.
- (22) Projects, as defined in 23 U.S.C. § 101, that would take place entirely within the existing operational right-of-way as fully defined in 23 CFR 771.117 (c) 22. Existing operational right-of-way (ROW) refers to ROW that has been disturbed for an existing transportation facility or is maintained for a transportation purpose.

- (23) Federally-funded projects:
- (i) That receive less than \$5,000,000 of Federal funds; or
 - (ii) With a total estimated cost of not more than \$30,000,000 and Federal funds comprising less than 15 percent of the total estimated project cost.
- (24) Localized geotechnical and other investigation to provide information for preliminary design and for environmental analyses and permitting purposes, such as drilling test bores for soil sampling; archeological investigations for archeology resources assessment or similar survey; and wetland surveys.
- (25) Environmental restoration and pollution abatement actions to minimize or mitigate the impacts of any existing transportation facility (including retrofitting and construction of stormwater treatment systems to meet Federal and State requirements under Sections 401 and 402 of the Federal Water Pollution Control Act (33 U.S.C. §§ 1341-1342) carried out to address water pollution or environmental degradation.
- (26) Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (including parking, weaving, turning, and climbing lanes), if the action meets the constraints in Section IV(A)(1)(b) of this Agreement.
- (27) Highway safety or traffic operations improvement projects, including the installation of ramp metering control devices and lighting, if the project meets the constraints in Section IV(A)(1)(b) of this Agreement.
- (28) Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings, if the actions meet the constraints in Section IV(A)(1)(b) of this Agreement.
- (29) Purchase, construction, replacement, or rehabilitation of ferry vessels (including improvements to the ferry vessel safety, navigation, and security systems) that would not require a change in the function of the ferry terminals and can be accommodated by existing facilities or by new facilities which themselves are within a CE.
- (30) Rehabilitation or reconstruction of existing ferry facilities that occupy substantially the same geographic footprint, do not result in a change in their functional use, and do not result in a substantial increase in the existing facility's capacity. Example actions include work on pedestrian and vehicle transfer structures and associated utilities, buildings, and terminals.

Appendix B

CEs Established in 23 CFR 771.117(d)

- (31) Transportation corridor fringe parking facilities.
- (32) Construction of new truck weigh stations or rest areas.
- (33) Approvals for disposal of excess right-of-way or for joint or limited use of right-of-way, where the proposed use does not have significant adverse impacts.
- (34) Construction of new bus storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and located on or near a street with adequate capacity to handle anticipated bus and support vehicle traffic.
- (35) Rehabilitation or reconstruction of existing rail and bus buildings and ancillary facilities where only minor amounts of additional land are required and there is not a substantial increase in the number of users.
- (36) Construction of bus transfer facilities (an open area consisting of passenger shelters, boarding areas, kiosks, and related street improvements) when located in a commercial area or other high activity center in which there is adequate street capacity for projected bus traffic.
- (37) Construction of rail storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and where there is no significant noise impact on the surrounding community.
- (38) Acquisition of land for hardship or protective purposes.



Appendix F
Sample HSM and Benefit-
Cost Analyses

HSM Summary Worksheet Alternative 1 Conditions (1 Year Shown)

 Double Click the Pin to See All Worksheets

Worksheet 3A and 3B (Modified) -- Predicted Crashes by Severity and Site Type for Urban and Suburban Arterials

(1)	(2)	(3)	(4)
Collision type / Site type	Predicted average crash frequency (crashes/year)		
	N _{predicted} (TOTAL)	N _{predicted} (FI)	N _{predicted} (PDO)
ROADWAY SEGMENTS			
Segment 1	0.1	0.0	0.1
Segment 2	0.2	0.1	0.1
Segment 3	0.3	0.1	0.2
Segment 4	0.1	0.0	0.1
Segment 5	0.2	0.0	0.1
Segment 6	0.1	0.0	0.1
Segment 7	0.2	0.1	0.1
Segment 8	1.1	0.3	0.8
Segment 9	0.1	0.0	0.1
Segment 10	0.2	0.1	0.1
Segment 11	1.2	0.4	0.9
Segment 12	0.1	0.0	0.1
Segment 13	0.1	0.0	0.1
Segment 14	2.1	0.6	1.5
Segment 15	0.1	0.0	0.1
Segment 16	0.1	0.0	0.1
Segment 17	1.4	0.4	1.0
Segment 18	0.1	0.0	0.1
Segment 19	0.2	0.1	0.2
Segment 20	0.9	0.2	0.6
Segment 21	1.8	0.5	1.3
Segment 22	0.1	0.0	0.1
Segment 23	1.5	0.4	1.0
Segment 24	0.6	0.2	0.4
Segment 25	0.5	0.1	0.3
Segment 26	0.1	0.0	0.1
Segment 27	0.4	0.1	0.3
Segment 28	0.2	0.0	0.1
Segment 29	0.9	0.3	0.6
Segment 30	0.7	0.2	0.5
Segment 31	0.7	0.2	0.5
Segment 32	3.8	1.2	2.6
INTERSECTIONS			
Intersection 1 - Pequannock St	4.4	1.5	2.8
Intersection 2 - N. Sussex St.	3.5	1.2	2.3
Intersection 3 - N. Morris St. (CR 643)	2.6	0.9	1.6
Intersection 4 - Hoagland Ave.	1.6	0.7	0.9
Intersection 5 - Mt. Hope Ave. (CR 661) / N. Bergen St. (NJ Route 15)	4.3	1.5	2.8
Intersection 6 - Locust Ave. / Mercer St.	3.4	1.2	2.2
Intersection 7 - Searing St. / Belmont Ave.	3.1	1.3	1.9
Intersection 8 - E. McFarlan St. / King St. / Depew Ave. / Nelson St.	3.4	1.2	2.2
Intersection 9 - Perry St.	4.1	1.4	2.7
Intersection 10 - Sammis Ave.	2.1	0.8	1.3
Intersection 11 - Shopping Center Dwy.	2.6	0.9	1.7
Intersection 12 - W. Main St. / Dover-Rockaway Rd. (CR 513)	6.4	2.2	4.2
Additional 3 Intersections Like Searing St. / Belmont Ave.	9.4	3.9	5.6
Additional 5 Intersections Like N. Morris St. (CR 643)	13.0	4.7	8.2
Additional 9 Intersections Like Sammis Ave.	18.9	7.3	11.6
COMBINED (sum of column)	102.9	36.7	66.2

Benefit/Cost Ratio Calculations (20 Year Service Life Shown)

NJDOT Bureau of Transportation Data and Safety
February 2, 2018

Numbers to Use for HSM Analysis Variables

Comprehensive Crash Costs for 2018:

Fatal (K)	\$ 5,848,429
Disabling Injury (A)	\$ 310,309
Evident Injury (B)	\$ 113,367
Possible Injury (C)	\$ 63,935
PDO (O)	\$ 10,351
Fatal/Injury (F/I)	\$ 228,655

Discount Rate: 4 %

MULTIPLE YEAR ECONOMIC APPRAISAL

General Information

Project Name	Rt 46, Pequannock St to CR 513 (W Main St), Concept Development
Project Description	Rt 46 Alternative 1 - Road Diet
Location	Dover Town and Rockaway Township, Morris County
Analyst	Joe Di Lauri, Julia Steponanko
Agency/Company	GPI
Contact Email	jdilauri@gpinet.com , jsteponanko@gpinet.com
Contact Phone	908-236-9001
Date Completed	11/6/2018

Required user input data

Calculated Results

Economic Appraisal Information

Baseline Data Year	2018
Construction Year	2025 Predictive Crash Frequencies using HSM-Part C spreadsheet (Empirical-Bayes Method is not applied)
Service Life (yrs)	20 Road Diet
Annual Traffic Growth (%)	0.54% See HSM Report Appendix C for backup calculations
Discount Rate (i)	4.00% Assumed

Selected Countermeasure(s) Information

Description	Road Diet
CMF Reference	N/A
CMF Total	0
Standard Error	0
Notes:	No HSM Part D CMFs were used in the analysis of this alternative.

Injury Severity	Estimated Cost	
	2001*	2018
Fatal (K)	\$4,008,900	\$5,848,429.00
Fatal and/or Injury (K/A/B/C)	\$158,200	\$228,655.00
Disabling Injury (A)	\$216,000	\$310,309.00
Evident Injury (B)	\$79,000	\$113,367.00
Possible Injury (C)	\$44,900	\$63,935.00
Property Damage Only (O)	\$7,400	\$10,351.00

* Societal Crash Costs by Severity, FHWA-HRT-05-051, October 2005

\$6,535,000 Project Cost
\$9,781,867 TOTAL CRASH BENEFIT
1.50 Benefit / Cost Ratio

Year	Predicted Average Crash Frequency									Annual Monetary Value of Change in Crashes					Conversion to Present Value		
	Existing Conditions			With Road Diet			$\Delta N_{\text{Predicted}}$			FI Crash Cost	FI Crash Cost Benefit	PDO Crash Cost	PDO Crash Cost Benefit	Total Crash Cost Benefit	Years in service life (y)	(P/F,i,y)	Present Value Crash Cost Benefit
	Total	FI	PDO	Total	FI	PDO	Total	FI	PDO								
2018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	0	1.0000	\$ -
2019	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	1	0.9615	\$ -
2020	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	2	0.9246	\$ -
2021	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	3	0.8890	\$ -
2022	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	4	0.8548	\$ -
2023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	5	0.8219	\$ -
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	6	0.7903	\$ -
2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	7	0.7599	\$ -
2026	112.5	40.4	72.1	102.9	36.7	66.2	9.6	3.7	5.9	\$228,655	\$846,023	\$10,351	\$61,071	\$907,094	8	0.7307	\$ 662,805
2027	113.3	40.7	72.6	103.7	37.0	66.7	9.6	3.7	5.9	\$228,655	\$846,024	\$10,351	\$61,071	\$907,094	9	0.7026	\$ 637,312
2028	114.1	41.0	73.1	104.3	37.2	67.1	9.8	3.8	6.0	\$228,655	\$868,889	\$10,351	\$62,106	\$930,995	10	0.6756	\$ 628,947
2029	114.8	41.2	73.6	105.1	37.5	67.6	9.7	3.7	6.0	\$228,655	\$846,024	\$10,351	\$62,106	\$908,130	11	0.6496	\$ 589,904
2030	115.7	41.5	74.2	105.8	37.7	68.1	9.9	3.8	6.1	\$228,655	\$868,889	\$10,351	\$63,141	\$932,030	12	0.6246	\$ 582,143
2031	116.2	41.7	74.5	106.3	37.9	68.4	9.9	3.8	6.1	\$228,655	\$868,889	\$10,351	\$63,141	\$932,030	13	0.6006	\$ 559,753
2032	116.7	41.9	74.8	106.6	38.0	68.6	10.1	3.9	6.2	\$228,655	\$891,755	\$10,351	\$64,176	\$955,931	14	0.5775	\$ 552,026
2033	117.1	42.0	75.1	107.1	38.2	68.9	10.0	3.8	6.2	\$228,655	\$868,889	\$10,351	\$64,176	\$933,065	15	0.5553	\$ 518,098
2034	117.6	42.2	75.4	107.5	38.3	69.2	10.1	3.9	6.2	\$228,655	\$891,755	\$10,351	\$64,176	\$955,931	16	0.5339	\$ 510,379
2035	118.1	42.4	75.7	108.0	38.5	69.5	10.1	3.9	6.2	\$228,655	\$891,755	\$10,351	\$64,176	\$955,931	17	0.5134	\$ 490,749
2036	118.5	42.5	76.0	108.5	38.7	69.8	10.0	3.8	6.2	\$228,655	\$868,889	\$10,351	\$64,176	\$933,065	18	0.4936	\$ 460,587
2037	119.1	42.7	76.4	108.9	38.8	70.1	10.2	3.9	6.3	\$228,655	\$891,755	\$10,351	\$65,211	\$956,966	19	0.4746	\$ 454,217
2038	119.6	42.9	76.7	109.4	39.0	70.4	10.2	3.9	6.3	\$228,655	\$891,755	\$10,351	\$65,211	\$956,966	20	0.4564	\$ 436,747
2039	120.1	43.1	77.0	109.8	39.1	70.7	10.3	4.0	6.3	\$228,655	\$914,620	\$10,351	\$65,211	\$979,831	21	0.4388	\$ 429,983
2040	120.5	43.2	77.3	110.2	39.3	70.9	10.3	3.9	6.4	\$228,655	\$891,755	\$10,351	\$66,246	\$958,001	22	0.4220	\$ 404,234
2041	122.2	43.8	78.4	111.7	39.8	71.9	10.5	4.0	6.5	\$228,655	\$914,620	\$10,351	\$67,282	\$981,902	23	0.4057	\$ 398,383
2042	123.8	44.4	79.4	113.3	40.4	72.9	10.5	4.0	6.5	\$228,655	\$914,620	\$10,351	\$67,282	\$981,902	24	0.3901	\$ 383,061
2043	125.4	44.9	80.5	114.7	40.9	73.8	10.7	4.0	6.7	\$228,655	\$914,620	\$10,351	\$69,352	\$983,972	25	0.3751	\$ 369,104
2044	127.1	45.5	81.6	116.2	41.4	74.8	10.9	4.1	6.8	\$228,655	\$937,486	\$10,351	\$70,387	\$1,007,872	26	0.3607	\$ 363,529
2045	128.8	46.1	82.7	117.8	42.0	75.8	11.0	4.1	6.9	\$228,655	\$937,486	\$10,351	\$71,422	\$1,008,907	27	0.3468	\$ 349,906
														TOTAL CRASH BENEFIT		\$9,781,867	

MULTIPLE YEAR ECONOMIC APPRAISAL

General Information

Project Name	Rt 46, Pequannock St to CR 513 (W Main St), Concept Development
Project Description	Rt 46 Alternative 2 - Partial Road Diet
Location	Dover Town and Rockaway Township, Morris County
Analyst	Joe Di Lauri, Julia Steponanko
Agency/Company	GPI
Contact Email	jdilauri@gpinet.com , jsteponanko@gpinet.com
Contact Phone	908-236-9001
Date Completed	11/6/2018

Required user input data

Calculated Results

Economic Appraisal Information

Baseline Data Year	2018
Construction Year	2025 Predictive Crash Frequencies using HSM-Part C spreadsheet (Empirical-Bayes Method is not applied)
Service Life (yrs)	20 Partial Road Diet
Annual Traffic Growth (%)	0.54% See HSM Report Appendix C for backup calculations
Discount Rate (i)	4.00% Assumed

Selected Countermeasure(s) Information

Description	Partial Road Diet
CMF Reference	N/A
CMF Total	0
Standard Error	0
Notes:	No HSM Part D CMFs were used in the analysis of this alternative.

Injury Severity	Estimated Cost	
	2001*	2018
Fatal (K)	\$4,008,900	\$5,848,429.00
Fatal and/or Injury (K/A/B/C)	\$158,200	\$228,655.00
Disabling Injury (A)	\$216,000	\$310,309.00
Evident Injury (B)	\$79,000	\$113,367.00
Possible Injury (C)	\$44,900	\$63,935.00
Property Damage Only (O)	\$7,400	\$10,351.00

* Societal Crash Costs by Severity, FHWA-HRT-05-051, October 2005

\$6,145,000 Project Cost
\$5,462,809 TOTAL CRASH BENEFIT
0.89 Benefit / Cost Ratio

Year	Predicted Average Crash Frequency									Annual Monetary Value of Change in Crashes					Conversion to Present Value		
	Existing Conditions			With Partial Road Diet			$\Delta N_{\text{Predicted}}$			FI Crash Cost	FI Crash Cost Benefit	PDO Crash Cost	PDO Crash Cost Benefit	Total Crash Cost Benefit	Years in service life (y)	(P/F,i,y)	Present Value Crash Cost Benefit
	Total	FI	PDO	Total	FI	PDO	Total	FI	PDO								
2018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	0	1.0000	\$ -
2019	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	1	0.9615	\$ -
2020	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	2	0.9246	\$ -
2021	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	3	0.8890	\$ -
2022	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	4	0.8548	\$ -
2023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	5	0.8219	\$ -
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	6	0.7903	\$ -
2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	7	0.7599	\$ -
2026	112.5	40.4	72.1	107.4	38.3	69.1	5.1	2.1	3.0	\$228,655	\$480,176	\$10,351	\$31,053	\$511,229	8	0.7307	\$ 373,550
2027	113.3	40.7	72.6	108.2	38.6	69.6	5.1	2.1	3.0	\$228,655	\$480,176	\$10,351	\$31,053	\$511,229	9	0.7026	\$ 359,182
2028	114.1	41.0	73.1	109.0	38.9	70.1	5.1	2.1	3.0	\$228,655	\$480,176	\$10,351	\$31,053	\$511,229	10	0.6756	\$ 345,368
2029	114.8	41.2	73.6	109.6	39.1	70.5	5.2	2.1	3.1	\$228,655	\$480,176	\$10,351	\$32,088	\$512,264	11	0.6496	\$ 332,757
2030	115.7	41.5	74.2	110.4	39.4	71.0	5.3	2.1	3.2	\$228,655	\$480,176	\$10,351	\$33,123	\$513,299	12	0.6246	\$ 320,605
2031	116.2	41.7	74.5	110.8	39.5	71.3	5.4	2.2	3.2	\$228,655	\$503,041	\$10,351	\$33,123	\$536,164	13	0.6006	\$ 322,006
2032	116.7	41.9	74.8	111.3	39.7	71.6	5.4	2.2	3.2	\$228,655	\$503,041	\$10,351	\$33,123	\$536,164	14	0.5775	\$ 309,621
2033	117.1	42.0	75.1	111.8	39.9	71.9	5.3	2.1	3.2	\$228,655	\$480,176	\$10,351	\$33,123	\$513,299	15	0.5553	\$ 285,017
2034	117.6	42.2	75.4	112.2	40.0	72.2	5.4	2.2	3.2	\$228,655	\$503,041	\$10,351	\$33,123	\$536,164	16	0.5339	\$ 286,262
2035	118.1	42.4	75.7	112.7	40.2	72.5	5.4	2.2	3.2	\$228,655	\$503,041	\$10,351	\$33,123	\$536,164	17	0.5134	\$ 275,252
2036	118.5	42.5	76.0	113.2	40.4	72.8	5.3	2.1	3.2	\$228,655	\$480,176	\$10,351	\$33,123	\$513,299	18	0.4936	\$ 253,379
2037	119.1	42.7	76.4	113.6	40.5	73.1	5.5	2.2	3.3	\$228,655	\$503,041	\$10,351	\$34,158	\$537,199	19	0.4746	\$ 254,978
2038	119.6	42.9	76.7	114.1	40.7	73.4	5.5	2.2	3.3	\$228,655	\$503,041	\$10,351	\$34,158	\$537,199	20	0.4564	\$ 245,171
2039	120.1	43.1	77.0	114.6	40.9	73.7	5.5	2.2	3.3	\$228,655	\$503,041	\$10,351	\$34,158	\$537,199	21	0.4388	\$ 235,741
2040	120.5	43.2	77.3	115.0	41.0	74.0	5.5	2.2	3.3	\$228,655	\$503,041	\$10,351	\$34,158	\$537,199	22	0.4220	\$ 226,674
2041	122.2	43.8	78.4	116.6	41.6	75.0	5.6	2.2	3.4	\$228,655	\$503,041	\$10,351	\$35,193	\$538,234	23	0.4057	\$ 218,376
2042	123.8	44.4	79.4	118.1	42.1	76.0	5.7	2.3	3.4	\$228,655	\$525,906	\$10,351	\$35,193	\$561,100	24	0.3901	\$ 218,897
2043	125.4	44.9	80.5	119.8	42.7	77.1	5.6	2.2	3.4	\$228,655	\$503,041	\$10,351	\$35,193	\$538,234	25	0.3751	\$ 201,901
2044	127.1	45.5	81.6	121.3	43.2	78.1	5.8	2.3	3.5	\$228,655	\$525,906	\$10,351	\$36,229	\$562,135	26	0.3607	\$ 202,756
2045	128.8	46.1	82.7	122.9	43.8	79.1	5.9	2.3	3.6	\$228,655	\$525,907	\$10,351	\$37,264	\$563,170	27	0.3468	\$ 195,317
														TOTAL CRASH BENEFIT		\$5,462,809	

MULTIPLE YEAR ECONOMIC APPRAISAL

General Information

Project Name	Rt 46, Pequannock St to CR 513 (W Main St), Concept Development
Project Description	Rt 46 Alternative 3 with 4A - Intersection Improvements
Location	Dover Town and Rockaway Township, Morris County
Analyst	Joe Di Lauri, Julia Steponanko
Agency/Company	GPI
Contact Email	jdilauri@gpinet.com , jsteponanko@gpinet.com
Contact Phone	908-236-9001
Date Completed	11/6/2018

Required user input data

Calculated Results

Economic Appraisal Information

Baseline Data Year	2018	
Construction Year	2025	Predictive Crash Frequencies using HSM-Part C spreadsheet (Empirical-Bayes Method is not applied)
Service Life (yrs)	20	Intersection Improvements
Annual Traffic Growth (%)	0.54%	See HSM Report Appendix C for backup calculations
Discount Rate (i)	4.00%	Assumed

Selected Countermeasure(s) Information

Description	Intersection Improvements
CMF Reference	Signalized: CMF ID 380 and 1430 [with severity breakdown 1431 (FI), 1432 (PDO)] / Unsignalized: CMF ID 391 and 5234
CMF Total	Signalized = 0.92 and 0.93 [severity breakdown 0.97 (FI), 0.91 (PDO)] / Unsignalized = 0.32 and 0.53 (applied to different locations)
Standard Error	0.1-0.2
Notes:	Project Cost includes Alternative 4A at Rt 46 and E. McFarlan/Depew/Nelson/King

Injury Severity	Estimated Cost	
	2001*	2018
Fatal (K)	\$4,008,900	\$5,848,429.00
Fatal and/or Injury (K/A/B/C)	\$158,200	\$228,655.00
Disabling Injury (A)	\$216,000	\$310,309.00
Evident Injury (B)	\$79,000	\$113,367.00
Possible Injury (C)	\$44,900	\$63,935.00
Property Damage Only (O)	\$7,400	\$10,351.00

* Societal Crash Costs by Severity, FHWA-HRT-05-051, October 2005

\$4,250,000 Project Cost
\$14,503,601 TOTAL CRASH BENEFIT
3.41 Benefit / Cost Ratio

Year	Predicted Average Crash Frequency									Annual Monetary Value of Change in Crashes					Conversion to Present Value		
	Existing Conditions			With Intersection Improvements			Δ N _{Predicted}			FI Crash Cost	FI Crash Cost Benefit	PDO Crash Cost	PDO Crash Cost Benefit	Total Crash Cost Benefit	Years in service life (y)	(P/F,i,y)	Present Value Crash Cost Benefit
	N _{Predicted Before}			N _{Predicted After}			Total	FI	PDO								
2018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	0	1.0000	\$ -
2019	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	1	0.9615	\$ -
2020	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	2	0.9246	\$ -
2021	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	3	0.8890	\$ -
2022	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	4	0.8548	\$ -
2023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	5	0.8219	\$ -
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	6	0.7903	\$ -
2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	7	0.7599	\$ -
2026	112.5	40.4	72.1	96.7	35.1	61.6	15.8	5.3	10.5	\$228,655	\$1,211,872	\$10,351	\$108,686	\$1,320,557	8	0.7307	\$ 964,918
2027	113.3	40.7	72.6	97.3	35.3	62.0	16.0	5.4	10.6	\$228,655	\$1,234,737	\$10,351	\$109,721	\$1,344,458	9	0.7026	\$ 944,598
2028	114.1	41.0	73.1	97.9	35.5	62.4	16.2	5.5	10.7	\$228,655	\$1,257,603	\$10,351	\$110,756	\$1,368,358	10	0.6756	\$ 924,414
2029	114.8	41.2	73.6	98.7	35.8	62.9	16.1	5.4	10.7	\$228,655	\$1,234,737	\$10,351	\$110,756	\$1,345,493	11	0.6496	\$ 874,006
2030	115.7	41.5	74.2	99.3	36.0	63.3	16.4	5.5	10.9	\$228,655	\$1,257,603	\$10,351	\$112,826	\$1,370,428	12	0.6246	\$ 855,966
2031	116.2	41.7	74.5	99.7	36.1	63.6	16.5	5.6	10.9	\$228,655	\$1,280,468	\$10,351	\$112,826	\$1,393,294	13	0.6006	\$ 836,776
2032	116.7	41.9	74.8	100.1	36.3	63.8	16.6	5.6	11.0	\$228,655	\$1,280,468	\$10,351	\$113,861	\$1,394,329	14	0.5775	\$ 805,190
2033	117.1	42.0	75.1	100.5	36.4	64.1	16.6	5.6	11.0	\$228,655	\$1,280,468	\$10,351	\$113,861	\$1,394,329	15	0.5553	\$ 774,221
2034	117.6	42.2	75.4	100.9	36.6	64.3	16.7	5.6	11.1	\$228,655	\$1,280,468	\$10,351	\$114,896	\$1,395,364	16	0.5339	\$ 744,996
2035	118.1	42.4	75.7	101.3	36.7	64.6	16.8	5.7	11.1	\$228,655	\$1,303,334	\$10,351	\$114,896	\$1,418,230	17	0.5134	\$ 728,081
2036	118.5	42.5	76.0	101.8	36.9	64.9	16.7	5.6	11.1	\$228,655	\$1,280,468	\$10,351	\$114,896	\$1,395,364	18	0.4936	\$ 688,791
2037	119.1	42.7	76.4	102.1	37.0	65.1	17.0	5.7	11.3	\$228,655	\$1,303,334	\$10,351	\$116,966	\$1,420,300	19	0.4746	\$ 674,135
2038	119.6	42.9	76.7	102.6	37.2	65.4	17.0	5.7	11.3	\$228,655	\$1,303,334	\$10,351	\$116,966	\$1,420,300	20	0.4564	\$ 648,206
2039	120.1	43.1	77.0	103.0	37.3	65.7	17.1	5.8	11.3	\$228,655	\$1,326,199	\$10,351	\$116,966	\$1,443,165	21	0.4388	\$ 633,309
2040	120.5	43.2	77.3	103.4	37.5	65.9	17.1	5.7	11.4	\$228,655	\$1,303,334	\$10,351	\$118,001	\$1,421,335	22	0.4220	\$ 599,740
2041	122.2	43.8	78.4	104.8	38.0	66.8	17.4	5.8	11.6	\$228,655	\$1,326,199	\$10,351	\$120,072	\$1,446,271	23	0.4057	\$ 586,790
2042	123.8	44.4	79.4	106.1	38.4	67.7	17.7	6.0	11.7	\$228,655	\$1,371,930	\$10,351	\$121,107	\$1,493,037	24	0.3901	\$ 582,466
2043	125.4	44.9	80.5	107.5	38.9	68.6	17.9	6.0	11.9	\$228,655	\$1,371,930	\$10,351	\$123,177	\$1,495,107	25	0.3751	\$ 560,840
2044	127.1	45.5	81.6	108.9	39.4	69.5	18.2	6.1	12.1	\$228,655	\$1,394,796	\$10,351	\$125,247	\$1,520,043	26	0.3607	\$ 548,263
2045	128.8	46.1	82.7	110.4	40.0	70.4	18.4	6.1	12.3	\$228,655	\$1,394,796	\$10,351	\$127,317	\$1,522,113	27	0.3468	\$ 527,894
															TOTAL CRASH BENEFIT		\$14,503,601

MULTIPLE YEAR ECONOMIC APPRAISAL

General Information

Project Name	Rt 46, Pequannock St to CR 513 (W Main St), Concept Development
Project Description	Rt 46 Alternative 5 - Road Diet With Roundabout at E. McFarlan/Nelson/King/Depew Intersection
Location	Dover Town and Rockaway Township, Morris County
Analyst	Joe Di Lauri, Julia Steponanko
Agency/Company	GPI
Contact Email	jdilauri@gpinet.com , jsteponanko@gpinet.com
Contact Phone	908-236-9001
Date Completed	11/6/2018

Required user input data

Calculated Results

Economic Appraisal Information

Baseline Data Year	2018
Construction Year	2025 Predictive Crash Frequencies using HSM-Part C spreadsheet (Empirical-Bayes Method is not applied)
Service Life (yrs)	20 Road Diet - With Roundabout
Annual Traffic Growth (%)	0.54% See HSM Report Appendix C for backup calculations
Discount Rate (i)	4.00% Assumed

Selected Countermeasure(s) Information

Description	Road Diet - With Roundabout
CMF Reference	CMF 225 (Convert Signalized Intersection to Modern Roundabout)
CMF Total	0.52
Standard Error	0.06
Notes:	This CMF is not used in this spreadsheet since it was already accounted for in the appropriate Part C intersection worksheets.

Injury Severity	Estimated Cost	
	2001*	2018
Fatal (K)	\$4,008,900	\$5,848,429.00
Fatal and/or Injury (K/A/B/C)	\$158,200	\$228,655.00
Disabling Injury (A)	\$216,000	\$310,309.00
Evident Injury (B)	\$79,000	\$113,367.00
Possible Injury (C)	\$44,900	\$63,935.00
Property Damage Only (D)	\$7,400	\$10,351.00

* Societal Crash Costs by Severity, FHWA-HRT-05-051, October 2005

\$9,035,000 Project Cost
\$10,830,269 TOTAL CRASH BENEFIT
1.20 Benefit / Cost Ratio

Year	Predicted Average Crash Frequency									Annual Monetary Value of Change in Crashes					Conversion to Present Value		
	Existing Conditions			With Road Diet			$\Delta N_{\text{Predicted}}$			FI Crash Cost	FI Crash Cost Benefit	PDO Crash Cost	PDO Crash Cost Benefit	Total Crash Cost Benefit	Years in service life (y)	(P/F,i,y)	Present Value Crash Cost Benefit
	Total	FI	PDO	Total	FI	PDO	Total	FI	PDO								
2018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	0	1.0000	\$ -
2019	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	1	0.9615	\$ -
2020	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	2	0.9246	\$ -
2021	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	3	0.8890	\$ -
2022	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	4	0.8548	\$ -
2023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	5	0.8219	\$ -
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	6	0.7903	\$ -
2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	\$0	\$0	7	0.7599	\$ -
2026	112.5	40.4	72.1	101.8	36.3	65.5	10.7	4.1	6.6	\$228,655	\$937,486	\$10,351	\$68,317	\$1,005,802	8	0.7307	\$ 734,930
2027	113.3	40.7	72.6	102.6	36.6	66.0	10.7	4.1	6.6	\$228,655	\$937,486	\$10,351	\$68,317	\$1,005,802	9	0.7026	\$ 706,663
2028	114.1	41.0	73.1	103.2	36.8	66.4	10.9	4.2	6.7	\$228,655	\$960,351	\$10,351	\$69,352	\$1,029,703	10	0.6756	\$ 695,630
2029	114.8	41.2	73.6	104.0	37.1	66.9	10.8	4.1	6.7	\$228,655	\$937,486	\$10,351	\$69,352	\$1,006,837	11	0.6496	\$ 654,022
2030	115.7	41.5	74.2	104.7	37.3	67.4	11.0	4.2	6.8	\$228,655	\$960,351	\$10,351	\$70,387	\$1,030,738	12	0.6246	\$ 643,796
2031	116.2	41.7	74.5	105.2	37.5	67.7	11.0	4.2	6.8	\$228,655	\$960,351	\$10,351	\$70,387	\$1,030,738	13	0.6006	\$ 619,034
2032	116.7	41.9	74.8	105.5	37.6	67.9	11.2	4.3	6.9	\$228,655	\$983,216	\$10,351	\$71,422	\$1,054,638	14	0.5775	\$ 609,027
2033	117.1	42.0	75.1	106.0	37.8	68.2	11.1	4.2	6.9	\$228,655	\$960,351	\$10,351	\$71,422	\$1,031,773	15	0.5553	\$ 572,907
2034	117.6	42.2	75.4	106.4	37.9	68.5	11.2	4.3	6.9	\$228,655	\$983,217	\$10,351	\$71,422	\$1,054,638	16	0.5339	\$ 563,080
2035	118.1	42.4	75.7	106.9	38.1	68.8	11.2	4.3	6.9	\$228,655	\$983,216	\$10,351	\$71,422	\$1,054,638	17	0.5134	\$ 541,423
2036	118.5	42.5	76.0	107.3	38.2	69.1	11.2	4.3	6.9	\$228,655	\$983,216	\$10,351	\$71,422	\$1,054,638	18	0.4936	\$ 520,599
2037	119.1	42.7	76.4	107.8	38.4	69.4	11.3	4.3	7.0	\$228,655	\$983,217	\$10,351	\$72,457	\$1,055,674	19	0.4746	\$ 501,067
2038	119.6	42.9	76.7	108.3	38.6	69.7	11.3	4.3	7.0	\$228,655	\$983,216	\$10,351	\$72,457	\$1,055,674	20	0.4564	\$ 481,796
2039	120.1	43.1	77.0	108.6	38.7	69.9	11.5	4.4	7.1	\$228,655	\$1,006,082	\$10,351	\$73,492	\$1,079,574	21	0.4388	\$ 473,753
2040	120.5	43.2	77.3	109.1	38.9	70.2	11.4	4.3	7.1	\$228,655	\$983,217	\$10,351	\$73,492	\$1,056,709	22	0.4220	\$ 445,884
2041	122.2	43.8	78.4	110.6	39.4	71.2	11.6	4.4	7.2	\$228,655	\$1,006,082	\$10,351	\$74,527	\$1,080,609	23	0.4057	\$ 438,432
2042	123.8	44.4	79.4	112.0	39.9	72.1	11.8	4.5	7.3	\$228,655	\$1,028,948	\$10,351	\$75,562	\$1,104,510	24	0.3901	\$ 430,893
2043	125.4	44.9	80.5	113.6	40.5	73.1	11.8	4.4	7.4	\$228,655	\$1,006,082	\$10,351	\$76,597	\$1,082,679	25	0.3751	\$ 406,131
2044	127.1	45.5	81.6	115.1	41.0	74.1	12.0	4.5	7.5	\$228,655	\$1,028,948	\$10,351	\$77,633	\$1,106,580	26	0.3607	\$ 399,131
2045	128.8	46.1	82.7	116.6	41.5	75.1	12.2	4.6	7.6	\$228,655	\$1,051,813	\$10,351	\$78,668	\$1,130,481	27	0.3468	\$ 392,069
														TOTAL CRASH BENEFIT		\$10,830,269	



Appendix G

Useful Websites for Environmental Screenings

LIST OF USEFUL WEBSITES FOR ENVIRONMENTAL SCREENINGS

Website Name	Website Link	Environmental Concern
NJDEP Landscape Project	http://www.state.nj.us/dep/fgw/ensp/landscape/	General information about NJDEP's Landscape Project (habitat mapping)
NJDEP GIS	http://www.state.nj.us/dep/gis/	Downloadable environmental data layers for users of GIS software
NJDEP I-MapNJ	http://www.state.nj.us/dep/gis/depsplash.htm	Interactive environmental mapping program for non-GIS software users (available to anyone with a computer)
Highlands	http://www.state.nj.us/dep/highlands/	Highlands Act information and mapping
NJDEP Surface Water Quality Classifications	http://www.nj.gov/dep/wmm/sgwqt/200610swqs.pdf	Lists and describes surface water quality classifications for Category One Waters, Trout Maintenance Waters, and Trout Production Waters in NJ. List is towards the end of the document.
Pinelands	http://www.state.nj.us/pineland/s/	General Pinelands information and mapping
USFWS ~ Consultation Process	http://www.fws.gov/northeast/njfieldoffice/Endangered/consultation.htm	General information about Section 7 consultation, threatened and endangered species information, and other useful links
USFWS ~ List of Municipalities	http://www.fws.gov/northeast/njfieldoffice/Endangered/munlist.pdf	List of NJ municipalities, by county, with known occurrence of federally listed threatened and endangered species
NOAA Northeast Regional Office	http://www.nero.noaa.gov/hcd/webintro.html	Guide to Essential Fish Habitat (EFH) designations in the Northeast US with other useful links
NOAA Northeast Regional Office (Maps)	http://www.nero.noaa.gov/hcd/index2a.htm	Maps of EFH Designations in the Northeast US with additional links to EFH descriptions
NJDEP Shellfish	http://www.nj.gov/dep/bmw/waterclass.htm	Links to maps of shellfish classifications of NJ's coastal waters
NJDEP Vernal Pools	http://www.state.nj.us/dep/fgw/ensp/vernalpool.htm	General information about vernal pools
Rutgers University Vernal Pools	http://www.dbcrrsa.rutgers.edu/ims/vernal/graphics.htm	Maps of potential/certified vernal pools
EPA Sole Source Aquifers	http://www.epa.gov/region02/water/aquifer/	Map of EPA Region II's sole source aquifers with links to support documents for each
NJDEP Land Use	http://www.state.nj.us/dep/landuse/index.html	Useful links for various NJ environmental permitting issues (CAFRA, FWWL, Waterfront Development, Stream Encroachment, etc.)
ACOE New York District	http://www.nan.usace.army.mil/business/buslinks/regulat/index.htm	Links to ACOE permitting information
ACOE Philadelphia District	http://www.nap.usace.army.mil/cenap-op/regulatory/regulatory.htm	Links to ACOE permitting information
Topozone	http://www.topozone.com/default.asp	Interactive mapping website that allows you to print topographic maps

National Wild & Scenic Rivers	http://www.nps.gov/rivers/wildriverslist.html	Links to national wild & scenic rivers by state
NJPDES Construction Activity Stormwater Permitting	http://www.state.nj.us/dep/dwq/constrfs.htm	Information regarding NJDES construction stormwater permitting
NJ Stormwater	http://njstormwater.org/	Information and links regarding NJ stormwater permitting and management programs
D&R Canal Commission	http://www.dandrcanal.com/drc/regulatory.html	Information regarding the D&R Canal Commission's regulatory program
NJ Meadowlands Commission	http://www.meadowlands.state.nj.us/land_use/index.cfm	Links to guidelines and procedures, maps, and other general information
NJDEP Tidelands Program	http://www.state.nj.us/dep/landuse/tideland.html	General information about the tidelands program and useful links
Delaware River Basin Commission	http://www.state.nj.us/drbc/	General information and useful links
NJDEP Green Acres	http://www.state.nj.us/dep/greenacres/	General information about the Green Acres Program
NJDEP Green Acres ROSI	http://www.state.nj.us/dep/greenacres/openspace.htm	Recreation and Open Space Inventory (ROSI)
US Coast Guard	http://www.uscg.mil/hq/g-o/g-opt/Regulations.htm	Laws & Regulations, and links that contain information about permitting
USEPA Greenbook	http://www.epa.gov/oar/oaqps/greenbk	Non-attainment and maintenance areas for air quality
NJDEP Site Remediation & Waste Management	http://www.state.nj.us/dep/srp/kcs-nj/	Contains the known Contaminated Sites in New Jersey (KCS-NJ) report, which contains basic information on approximately 14,000 contaminated sites
NJDEP Data Miner	http://www.nj.gov/dep/opra/online.html	NJDEP's comprehensive listing of environmental data, including know contaminated sites
NJDEP Historic Preservation Office	http://www.state.nj.us/dep/hpo/identify/nrsr_lists.htm	All properties listed on the NJ and National Registers of Historic Places by County and Municipality and any properties found eligible for listing in the National Register; links to state and federal regulations and resources pertinent to historic properties
NJDOT Historic Bridge Survey	http://www.state.nj.us/transportation/works/environment/HistBrlntro.htm	Bridge on and off the state system built prior to 1945 with an evaluation of their individual eligibility for listing in the National Register of Historic Places by county and structure number; eligibility as part of an historic district is discussed when information is available.



Appendix H
Sample Public Outreach
Documents

RESOLUTION OF THE TOWNSHIP COUNCIL OF THE TOWNSHIP OF LIVINGSTON SUPPORTING THE NEW JERSEY DEPARTMENT OF TRANSPORTATION'S IMPROVEMENTS ON ROUTE 10

WHEREAS, the Township of Livingston desires to enhance pedestrian and bicycle safety along Route 10;

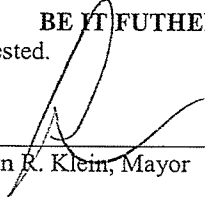
WHEREAS, the New Jersey Department of Transportation (NJDOT) recently completed an evaluation of pedestrian safety on Route 10 (East Mount Pleasant Avenue) in the Township of Livingston; and

WHEREAS, the NJDOT's proposed improvements to Route 10 will consist of constructing connecting sidewalk on Route 10 westbound from Chelsea Drive in the Township of Livingston to Kelly Drive in the Township of West Orange with associated curbing, shoulder and drainage modifications;


WHEREAS, a resolution of support is required by the NJDOT for the proposed improvements along Route 10;

NOW, THEREFORE, BE IT RESOLVED, that the Township Council of the Township of Livingston of Essex County, in the State of New Jersey formally support the proposed NJDOT improvements along Route 10 from Chelsea Drive to Kelly Drive in the Township of West Orange.

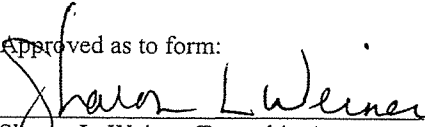
BE IT FURTHER RESOLVED that a certified copy of this resolution shall be forwarded to the NJDOT as requested.



Shawn R. Klein, Mayor



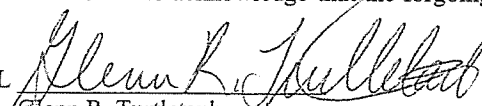
Glenn R. Turteltaub, Township Clerk

Approved as to form:


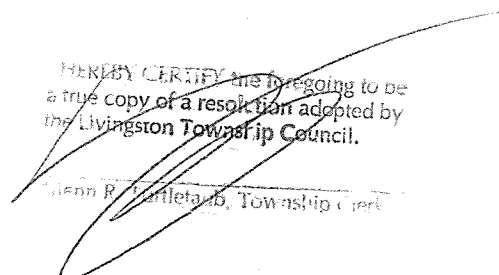
Sharon L. Weiner, Township Attorney

Adopted: December 4, 2017

My signature and the Clerk's seal serve to acknowledge that the forgoing is a true copy of a resolution adopted by the Township Council.

ATTEST and AFFIX SEAL 

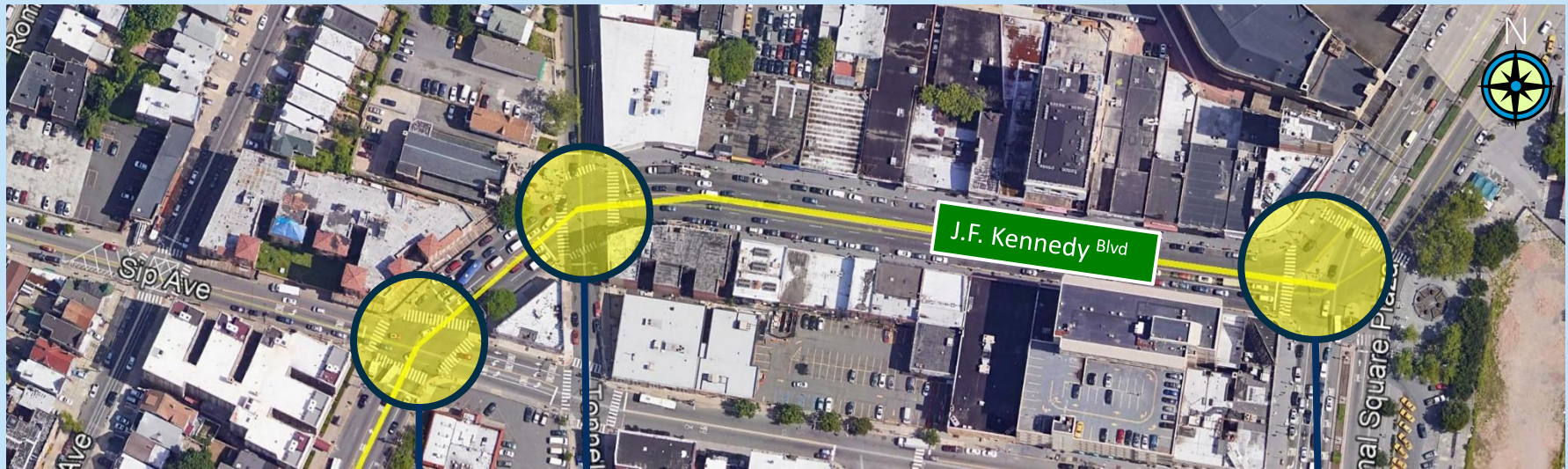
Glenn R. Turteltaub
Township Clerk


HEREBY CERTIFY the foregoing to be a true copy of a resolution adopted by the Livingston Township Council.

Glenn R. Turteltaub, Township Clerk


SECTION 2: CRASH ANALYSIS


THREE YEAR PERIOD (2015-2017) – 215 TOTAL CRASHES





Sip Ave Tonnelle Ave Bergen Ave


40 11 58 61 43












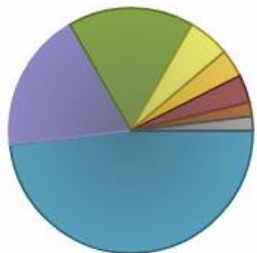








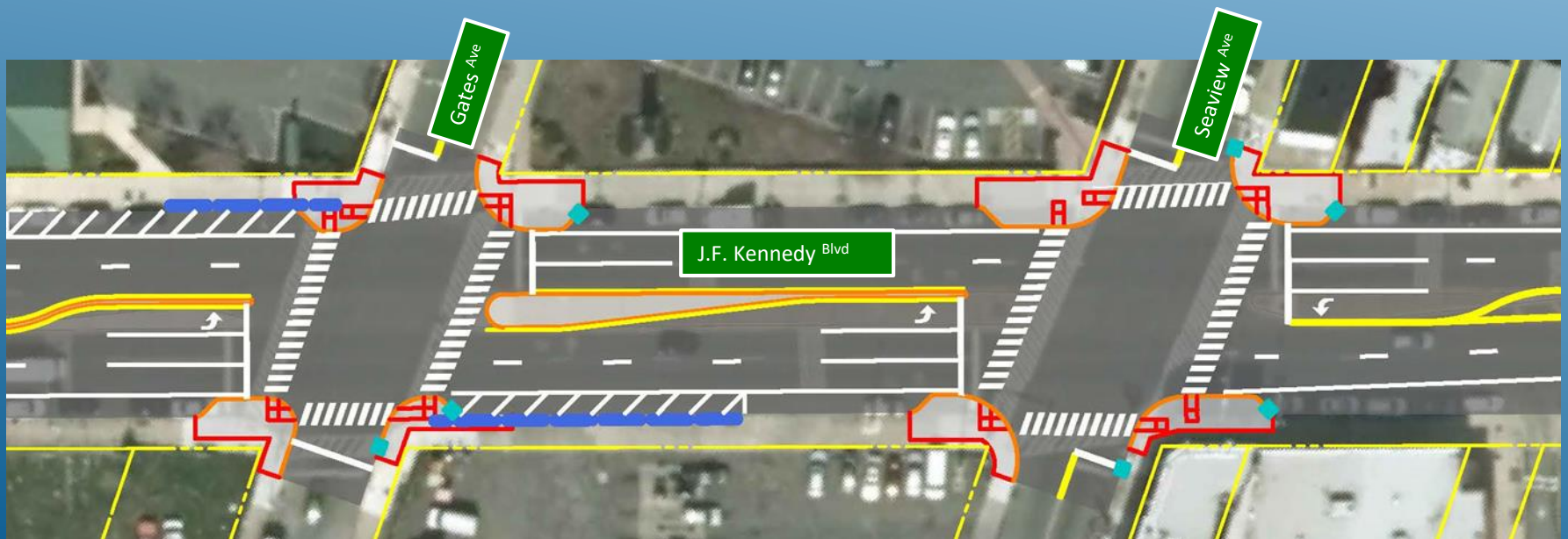
Cluster Breakdown




-  Same Direction - Sideswipe
-  Struck Parked Vehicle
-  Same Direction - Rear End
-  Fixed Object
-  Pedestrian
-  Right Angle
-  Backing
-  Left Turn/U-Turn

SECTION 1: PROPOSED IMPROVEMENTS

- ▶ Gates Avenue
 - ▶ Construct northbound left turn slot
- ▶ Seaview Avenue
 - ▶ Construct opposing northbound/southbound left turn slots





Appendix I
Application Submission
Deadlines / Schedule

Proposed Application Schedule



DVRPC/SJTPO Federal FY 202X-202Y

<i>Item</i>	<i>Deadline</i>
Solicitation/Submit Proposed FY202Y Project Locations	1st Friday in December
Crash analysis complete (SJTPO)	1st Monday in March (following year)
FY202Y LSP/HRRRP Phase 1 Applications Due to MPO*	1st Monday in September
FY202Y LSP/HRRRP Phase 1 Applications Due to NJDOT BSBPP	3rd Friday in December
NJDOT BSBPP Phase 1 Preliminary Review	1st Monday in March (following year)
Response to Phase 1 Comments/Phase 2 Applications Due	1st Friday in June
TRC Review/Scoring/Notes	1st Monday in September
Response to TRC Comments	1st Friday in October
TRC Meeting/Recommendations	3rd Friday in November
MPO Board Approval	2nd Friday in December to 4th Friday in January (following year)

* Any internal coordination between the applicant and MPO should be completed prior to this submission deadline

MPO to update as appropriate for each solicitation and calendar year.

Proposed Application Schedule



DVRPC/SJTPO

Example: Federal FY 2021-2022

<i>Item</i>	<i>Deadline</i>	<i>Example Date</i>
Solicitation/Submit Proposed FY2022 Project Locations	1st Friday in December	12/4/2020
Crash analysis complete (SJTPO)	1st Monday in March (following year)	3/1/2021
FY2022 LSP/HRRRP Phase 1 Applications Due to MPO*	1st Monday in September	9/6/2021
FY2022 LSP/HRRRP Phase 1 Applications Due to NJDOT BSBPP	3rd Friday in December	12/17/2021
NJDOT BSBPP Phase 1 Preliminary Review	1st Monday in March (following year)	3/7/2022
Response to Phase 1 Comments/Phase 2 Applications Due	1st Friday in June	6/3/2022
TRC Review/Scoring/Notes	1st Monday in September	9/5/2022
Response to TRC Comments	1st Friday in October	10/7/2022
TRC Meeting/Recommendations	3rd Friday in November	11/18/2022
MPO Board Approval	2nd Friday in December to 4th Friday in January (following year)	12/9/2022-1/27/2023

* Any internal coordination between the applicant and MPO should be completed prior to this submission deadline

See MPO website for current dates.

Proposed Application Schedule



NJTPA Federal FY 202X-202Y

Item	Deadline
Release RFP for FY202X Consultant Assistance Program	2nd Friday in September
Reminder for next FY202Y LSP/HRRRP solicitation	1st Monday in January
Complete RFP process for FY202X Consultant Assistance Program	1st Monday in February
Invitation to Consultant Assistance Program	1st Monday in March
Release next FY202Y LSP/HRRRP Solicitation	2nd Friday in May
FY202Y LSP/HRRRP Applications Due*	2nd Friday in October
MPO/NJDOT Preliminary Review	3rd Monday in January
Response to Preliminary Comments	1st Friday in March
TRC Review/Scoring/Notes	1st Friday in May
Response to TRC Comments	3rd Monday in June
TRC Meeting/Recommendations	3rd Monday in July
Release RFP for FY202Z Consultant Assistance Program	1st Friday in August
MPO Board Approval of the FY202Y Program	1st Friday in October
Notification to applicants of MPO Board Approval	2nd Friday in November

* NJTPA Region Applicants to complete both Phases 1 and 2 of the application before submission

MPO to update as appropriate for each solicitation and calendar year.

NJTPA

Example: Federal FY 2021-2022

Item	Deadline	Example Date
Release RFP for FY2021 Consultant Assistance Program	2nd Friday in September	9/11/2020
Reminder for next FY2022 LSP/HRRRP solicitation	1st Monday in January	1/4/2021
Complete RFP process for FY2021 Consultant Assistance Program	1st Monday in February	2/1/2021
Invitation to Consultant Assistance Program	1st Monday in March	3/1/2021
Release next FY2022 LSP/HRRRP Solicitation	2nd Friday in May	5/14/2021
FY2022 LSP/HRRRP Applications Due*	2nd Friday in October	10/15/2021
MPO/NJDOT Preliminary Review	3rd Monday in January	1/17/2022
Response to Preliminary Comments	1st Friday in March	3/4/2022
TRC Review/Scoring/Notes	1st Friday in May	5/6/2022
Response to TRC Comments	3rd Monday in June	6/20/2022
TRC Meeting/Recommendations	3rd Monday in July	7/18/2022
Release RFP for FY2023 Consultant Assistance Program	1st Friday in August	8/5/2022
MPO Board Approval of the FY2022 Program	1st Friday in October	10/7/2022
Notification to applicants of MPO Board Approval	2nd Friday in November	11/11/2022

* NJTPA Region Applicants to complete both Phases 1 and 2 of the application before submission

See MPO website for current dates.