Route for Change

Transforming The Boulevard

Roosevelt Boulevard

Section 4 – Appendix 16

Environmental Compliance Guidance Memo

February 2020

INTRODUCTION

As part of the Roosevelt Boulevard Route for Change Program, the City of Philadelphia, in cooperation with the Pennsylvania Department of Transportation (PennDOT), and the Southeastern Pennsylvania Transportation Authority (SEPTA), is developing a series of improvements to create a more inviting corridor that is safe, accessible, and reliable for residents, visitors, employees, and commuters, including those who walk, wheel, transit, bicycle, and drive. The Program extends 14 miles from Broad Street in Philadelphia to the Neshaminy Mall (Rockhill Road) in Bensalem Township, Bucks County.

In addition to a long-term transformation of the Program Area by 2040, improvements to be completed by 2025 are also recommended as part of the Program. This technical memorandum provides a guide to identify the anticipated environmental clearance and sponsoring agency necessary to implement each type of project. In addition, it discusses key environmental considerations that are likely to be the most impactful for the 2040 alternatives.

DETERMINING PROJECT SPECIFIC ENVIRONMENTAL DOCUMENTATION

The following outlines the environmental evaluation and documentation process for federal-, or state-, funded projects for consideration as part of the Program's 2025 and 2040 improvements.[i] Per PennDOT Pub10B, the federally- and state-funded actions listed in Tables 1 and 2, respectively, are projects with logical termini and independent utility.

State-Funded Projects

The Program anticipates that the 2025 improvements will likely be funded by a combination of sources including both local and state funds. Projects that are state-funded are required to comply with the Pennsylvania Act 120. The Pennsylvania Department of Transportation (PennDOT) is the lead agency for these transportation projects. There are two types of environmental documentation for state-funded projects: Environmental Evaluation Report (EER) or an Environmental Documentation (ED). Generally, EERs are prepared for projects that have the potential to have significant effect or the extent of project effects is unknown. These projects are similar to the federal system's EIS or EA discussed further below. Additionally, EERs are required by PA Act 120 if both of the following conditions exist:

- The project is a transportation route or program. Note, this does not include any action that would be classified as a CE by FHWA; and

- The project requires new or additional right-of-way.

An ED is prepared for projects that are smaller in scope and do not have the potential for significant effects to the environment. These projects are very similar to CEs under the federal system. PennDOT utilizes the CE Expert System for documenting projects: (http://www.dotdom2.state.pa.us/ceea/ceeamain.nsf).

Federally-Funded Projects

The Program anticipates that federal permitting will be required, or federal funds will be used, to implement the 2040 vision and preferred alternative. Projects that require Federal action (permitting or funding) are required to have a federal agency, such as Federal Highway Administration (FHWA) and/or Federal Transit Administration (FTA) as the project sponsor and be responsible for compliance with the National Environmental Policy Act of 1969 (NEPA). NEPA

is one of the first laws to establish a broad national framework for protecting the environment. NEPA's basic policy is to assure that all branches of government give proper consideration to the environment prior to undertaking a federal action that may significantly affect the environment.

Transportation projects expected as part of the Route for Change Program will vary in modal type, size, complexity, and potential to affect the environment. As a result, these transportation project effects can vary from very minor to significant impacts on the human, natural, or cultural environments. To account for the variability of project impacts, three basic "classes of action" are used to determine how compliance with NEPA is carried out and documented for a project:

- Class I Actions - An **Environmental Impact Statement (EIS)** is prepared for projects where it is anticipated that the action will have a significant effect on the environment. These documents are issued as a draft and a final document and require formal public involvement. The EIS will evaluate various alternatives, document the potential impacts, and propose mitigation measures. Environmental clearance is received with the issuance of a Record of Decision (ROD).

- Class II Actions - An **Environmental Assessment (EA)** is prepared for actions in which the significance of the environmental impact is not clearly established at the outset of a project. Should environmental analysis and interagency review during the EA process find a project to have no significant impacts on the quality of the environment, a Finding of No Significant Impact (FONSI) is issued. If, as a result of the EA, it is determined that there are significant effects or controversy on environmental grounds, an EIS will be prepared.

- Class III Actions - **Categorical Exclusion Evaluation (CEs)** are issued for actions that do not individually or cumulatively have a significant impact on the environment. There are predetermined types of projects that typically qualify for as a CE project, as outlined in 23 CFR 771.117.

Types of Categorical Exclusion Evaluations:
There are three levels of Categorical Exclusion Evaluations that are applied to projects based on the type of work being completed, the resources present, and the potential impact to those resources. The level of documentation and effort required to complete these documents increases from the CE 1a through the CE 2. Additionally, while CE 1a and 1b documents can be reviewed and approved at the PennDOT's District Office level, CE 2s must be approved by PennDOT's Central Office and FHWA. The Bridge and Roadway Programmatic Agreement (BRPA) is a simplified and streamlined document that can be used to fulfill NEPA documentation, so long as the project meets specific criteria outline in the BRPA. Additional detailed information on each of the different types of CE documents can be found in PennDOT's Design Manual Part 1B (Publication 10B).

TYPES OF 2025 PROJECTS

Table 1 outlines the potential types of 2025 projects that could be advanced under the Route for Change Program. The table identifies the potential environmental classification documentation necessary to complete the project, along with who most likely is the reviewing agency, which is based on the anticipated funding levels needed to complete the project. It is assumed for the purpose of the table that lower cost projects are more likely to be advanced with city capital or state funding, while the higher cost projects are more likely to be advanced by federal funds. It should be noted that most projects will likely be funded by a combination of the sources

Additionally, while this section identifies a typical environmental classification for each type of transportation project, prior to initiating any project into an environmental process, additional coordination is required to confirm environmental classification.

Table 1. Types of 2025 Improvements

Project	Anticipated Funding Type	Environmental Classification	Agency
Roadway			
Signal Improvements	Local and/or State	ED	Streets Department and PennDOT
Median/Curb Improvements	Local and/or State	ED	Streets Department and OTIS
Offset Left Turns	Local and/or State	ED	Streets Department; OTIS; PennDOT
Michigan lefts	Local and/or State	ED	Streets Department; OTIS; PennDOT
Crossover Modifications	State	ED	Streets Department; OTIS; PennDOT
Woodhaven Road Interchange Modification	State	ED	Streets Department; OTIS; PennDOT
Curb extensions	State	ED	Streets Department; OTIS; PennDOT
Turn Bay Modifications	State	ED	Streets Department; OTIS PennDOT
Side Street modifications	Local	Checklist and Plan Review	City of Philadelphia
Transit			
Business Access and Transit (BAT) Lanes	City Capital and/or State	ED	Streets Department; OTIS; SEPTA; PennDOT
Pedestrian and Bicycle			
Pedestrian Lighting Improvements	Local	Street Lighting Plan Review	Streets Department
ADA Curb Modifications	Local and/or State	ED	Streets Department; OTIS; PennDOT
Crosswalk and Refuge Modifications	Local and/or State	ED	Streets Department; OTIS; PennDOT
Bicycle lanes and Sidepaths	Local and/or State	ED	Streets Department; OTIS; PennDOT
Additional			
Landscape Improvements	Local and/or State	ED	Streets Department; OTIS; PWD; PPR; PennDOT

Note: Environmental classification identified assumes there are no adverse effects on historic resources, public controversy on environmental grounds, as stated in Pennsylvania Administrative Code of 1929 Section 2002(15).

The process will change if the project is determined to have adverse effects on historic resources or public controversy on environmental grounds.

There are a number of cultural and environmental resources present throughout the corridor that will need to be considered during design of the 2025 improvements. Based on the limited footprint of the 2025 improvements, minimal effect is anticipated to the surrounding resources. Additional studies, such as an evaluation of structures that are greater than 50 years of age to determine their historic significance, assessment of potentially hazardous waste sources, and an environmental justice evaluation are anticipated to be required. Once the scope of work and limits of disturbance have been finalized for the 2025 improvements, a full assessment can be made as to the specific studies and coordination needed in support of the environmental documentation.

TYPES OF 2040 PROJECTS

Technical analysis, best practice research, and input from local stakeholders crafted a 2040 Vision for Roosevelt Boulevard, which provided the framework for creating two long-term alternative scenarios for the Boulevard that will transform the corridor into a multimodal facility. These improvements will require construction of new facilities, have a significantly greater construction/implementation cost, require more time to implement, and most likely have greater effects on the environment compared to the implementation of 2025 improvements.

Table 2 outlines the potential types of projects that could be advanced in the long-term, identifies the potential environmental classification documentation necessary to complete the project, and outlines who would be the approving agency. The reviewing agency is based on the anticipated funding levels needed to complete the preferred Alternative. These 2040 alternatives will likely be funded by a combination of the local, state, and federal sources, and will be required to follow several governing regulations. Prior to initiating any project into an environmental process, additional coordination is required to confirm environmental classification.

Table 2. Potential 2040 Improvements

Type of Improvement	Alternative	Anticipated Funding Type	Environmental Classification
Roadway			
Partially Capped Expressway and Ramps	1	Federal	EA
Lane Removal	2	Federal	EA
Convert Existing T-Intersections to 4-legged Intersections	2	State and/or Federal	CE
Eliminate Crossovers	2	State and/or Federal	CE
Reduce Driveways/Curb Cuts	1 & 2	Federal	CE
Semi-Actuated or Adaptive Signals	1 & 2	State and/or Federal	CE

Transit			
New Dedicated Transit Lanes (in median) and Stations	1 & 2	Federal	EA
Pedestrian and Bicycle			
Two-Way Cycle Track	1 & 2	State and /or Federal	CE
Sidewalk and Median Enhancements	1 & 2	State and/or Federal	CE

Note: Environmental classification identified assumes there are no adverse effects on historic resources, public controversy on environmental grounds, Section 4(f) use (other than de-minimis or net benefit as outlined in the 23 CFR 774), or Pennsylvania Administrative Code of 1929 Section 2002(15). The process will change if the project is determined to have adverse effects on historic resources or public controversy on environmental grounds.

SELECT ENVIRONMENTAL CONSIDERATIONS FOR 2040 IMPROVEMENTS

NEPA provides a framework for environmental planning and decision making for transportation projects. This framework, often described as an umbrella, includes many laws and regulations, such as the Clean Air Act, Clean Water Act, Environmental Justice Executive Order, Endangered Species Act, and Section 106 of the National Historic Preservation Act, among many others. Due to the breadth of the possible topics covered under NEPA, this document focuses on the following resources that are anticipated to be the most applicable and impactful related to the 2040 corridor improvements:

- Cultural Resources
- Environmental Justice and Public Involvement
- Air Quality
- Noise

For each of these topics, an overview is provided, the anticipated process flow is outlined, project specific examples are discussed, and an anticipated timeline to complete the required studies and coordination is provided. The coordination process for many of the resources that need to be considered under the umbrella of NEPA can vary depending on the type of funding used for a project. For the purpose of this summary, it is assumed that state or federal funds will be used.

Cultural Resources

Overview

Based on Section 106 of the National Historic Preservation Act of 1966 (16 USC 470), for projects requiring a federal action, agencies are required to consult with the State Historic Preservation Office (SHPO) on a project's potential to impact above ground historic or archaeological resources. In Pennsylvania, the Pennsylvania Historical and Museum Commission (PHMC) is the SHPO. The State History Code (Act 70, Title 37 PA Consolidated Statutes) requires that state funded transportation projects consult with the SHPO on projects that have the potential to impact archaeological or historic resources.

Process Flow
The typical coordination and process conducted for cultural resources is provided in **Figure 1**.

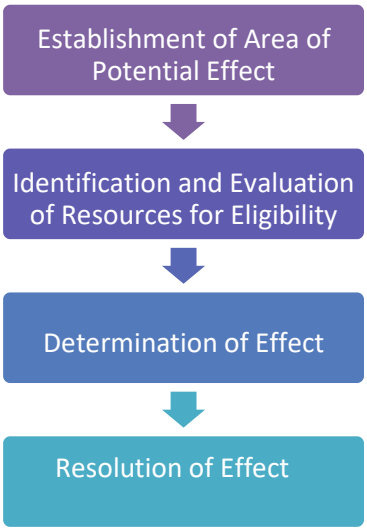

Figure 1- Cultural Resource Process

Definition of the Area of Potential Effect (APE)
The overall process for Cultural Resources begins with the definition of the project's Area of Potential Effect (APE) and the identification of existing historic and potentially historic resources within the APE. The APE is defined as the areas that could potentially be directly or indirectly altered by the project and includes, at a minimum, the anticipated limits of disturbance, which can also include visual and auditory impacts. With federal or state funding assumed, coordination with PennDOT's Cultural Resource Professional (CRP) and the SHPO will be undertaken to confirm the APE. For the type of 2040 improvements expected along Roosevelt Boulevard, the APE is anticipated to include the areas that will be directly impacted by construction and extend to include the viewshed that may be altered by new signage, lighting, and traffic control devices.

Identification and Evaluation of Resources to Determine Eligibility
Resources within the project area that are currently listed or eligible for listing on the National Register of Historic Places or listed National Historic Landmarks should be identified and mapped so that the assessment of potential effect can begin. Additionally, properties that are greater than 50 years old should be evaluated to determine if they meet criteria for inclusion on the National Register and areas of high archaeological potential should be identified. Note, that while the approximate historic property boundary can be obtained from online systems, such as Cultural Resources Geographic Information System (CRGIS), actual historic boundaries must be verified.

Determination and Resolution of Effect
Once resources have been identified, an assessment of effect should be conducted to determine if there are any direct or indirect impacts on the resource. The levels of effect can be generally categorized as:

A. **Not Present/No Effect** - Either no resources are present, or resources are present and there is no effect to the resources based on the APE and proposed work.

B. **No Adverse Effect** - Resources are present and effects do occur within the boundary of the resources. However, the effects do not result in an impact to the features that qualify the resource for inclusion on the National Register of Historic Places or as a National Historic Landmark.

C. **Adverse Effect**- Features of the resource that qualify it for inclusion on the National Register of Historic Places or as a National Historic Landmark are impacted, resulting in an adverse effect.

Should a project result in an adverse effect, a significant amount of coordination and consultation is required in order to develop mitigations needed to resolve the effect. Depending on the project, the resource, and the stakeholders, this process can take anywhere from one to three years. Additionally, prior to progressing an alternative that impacts a historic or archeological resource, it needs to be shown that there are no alternatives that avoid impact to the resource while meeting the projects

purpose and needs. It also needs to be shown that efforts have been made to minimize impacts to the resource to the extent possible.

Cultural Resources Present

There are multiple cultural resources present along Roosevelt Boulevard that show their approximate historic boundaries in CRGIS[ii]. In Figure 2, St. Ambrose Church complex, Brith Israel Synagogue, and the Tacony Creek Park are shown with their approximate historic boundaries according to CRGIS. These resources have previously been evaluated; both St. Ambrose Church complex and Brith Israel Synagogue were found to be eligible for inclusion on the National Register of Historic Places; however, the Tacony Creek Park was found to be ineligible. Since the Tacony Creek Park was found ineligible, it does not qualify as a historic resource.

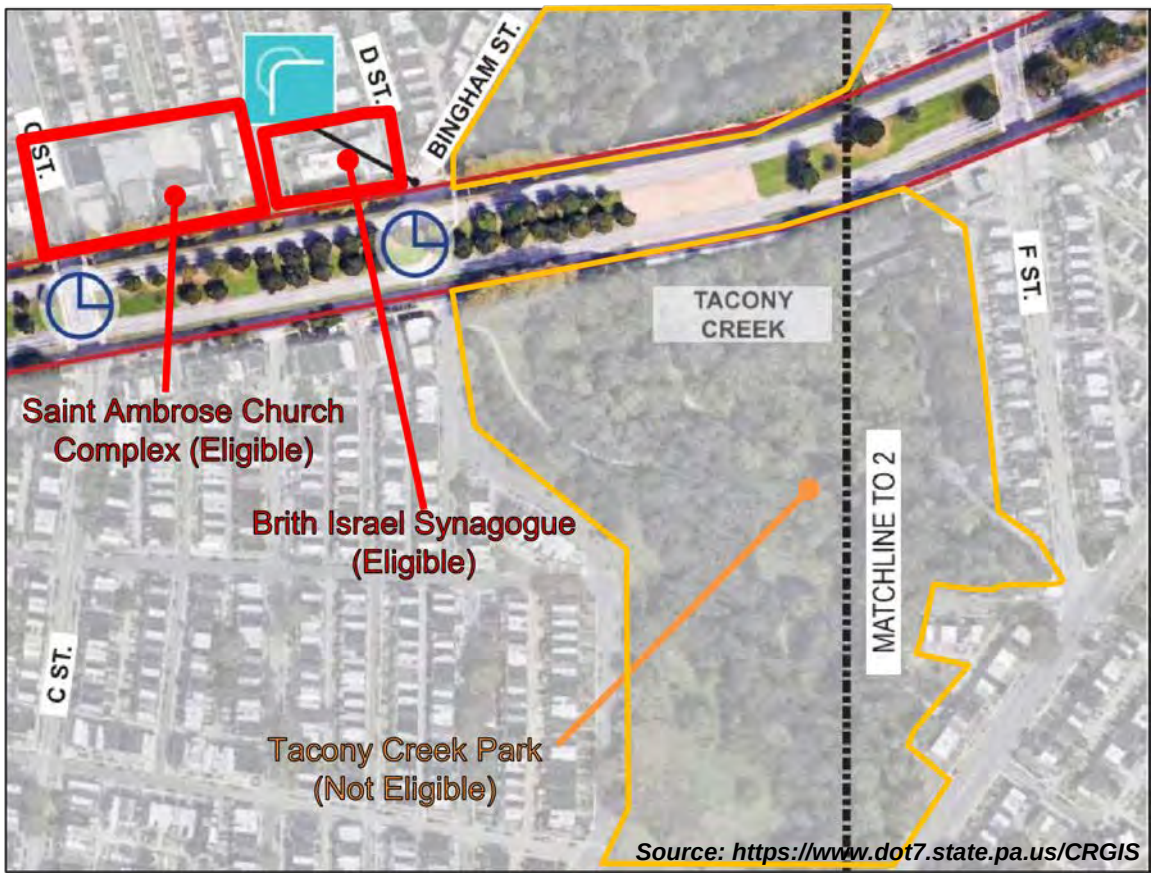

Figure 2- Existing Eligible Resources Along the Corridor

The list below are additional resources identified along Roosevelt Boulevard that are available for viewing in the CRGIS online inventory. These are known resources that should be considered as conceptual design and engineering for alternatives moves forward. It should be noted that additional research will be needed for potentially impacted properties that are greater than 50 years old.

- North Pennsylvania Railroad (near 6th Street & Roosevelt Boulevard) – Eligible
- St. Ambrose Church Complex (363 & 407 E. Roosevelt Boulevard) – Eligible
- Brith Israel Synagogue, New Life Presbyterian Church (425 E. Roosevelt Boulevard) – Eligible
- Friends Hospital (4641 Roosevelt Boulevard) – National Historic Landmark
- United Insurance Company of America (1355 W. Cheltenham Avenue) – Not Evaluated
- Nazareth Hospital (2601 Holme Avenue) – Not Evaluated

Timing and Impact on Project Schedule

A preliminary screening can be conducted online using CRGIS to determine the presence of known historic and archaeological resources; however, a professional architectural historian and archaeologist should be consulted to confirm the presence or absence of qualifying resources. If resources are found to be present, the approximate time needed for coordination for each level of effect are:

Level of Effect	Typical Timeline to Resolve Coordination
No Properties Present	1-2 months
No Effect/No Adverse Effect	3-12 months
Adverse Effect	1-3 years

It is important to note that properties greater than 50 years of age may need to be evaluated to determine their historic significance. The need to evaluate these properties is determined by the footprint of proposed project and its potential impact to the properties. The implication of evaluating properties that may be impacted and are greater than 50 years old on the project's schedule will vary based on the number of properties that will need to be evaluated, as the process includes detailed field work, desk research, and ultimately a recommendation on the property's historic significance.

Environmental Justice

Overview

Executive Order 12898, Federal Actions to Address Environmental Justice (EJ) in Minority and Low-Income Populations, outlines the process towards identifying and addressing disproportionately high and adverse effects on minority and low-income populations to the greatest extent practicable and permitted by the law. Additionally, Title VI of the Civil Rights Act of 1964 states that "no person in the United States, shall, on the grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance".

PennDOT's Project Level Environmental Justice Guidance (Publication 746) provides a summary of the fundamental principles of environmental justice as it applies to transportation projects:

"The fundamental principles of EJ can be defined as:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority and low-income populations;
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process; and
- To prevent the denial of, reduction in, or significant delays in the receipt of benefits by minority and low-income populations"

Process Flow

The typical process that needs to be followed to ensure compliance with Environmental Justice requirements is outlined in Figure 3.

Projects Exempt from Detailed EJ Analysis:
In accordance with PennDOT's Environmental Justice Handbook, certain types of projects are exempt from requiring a detailed EJ investigation based on past experience and certain activities having no potential to disproportionately impact EJ populations. In general, a project is exempt from detailed Environmental Justice Analysis when:

- Only minor right-of-way acquisition (strip takes) are proposed where the acquisition does not impact the use of the property
- The project does not result in a significant impact on travel patterns based on detours for the traveling public (including bikes and pedestrians)
- Lane closures or access restrictions require proper coordination with the affected community and property owners
- No significant controversy based on Title VI issues

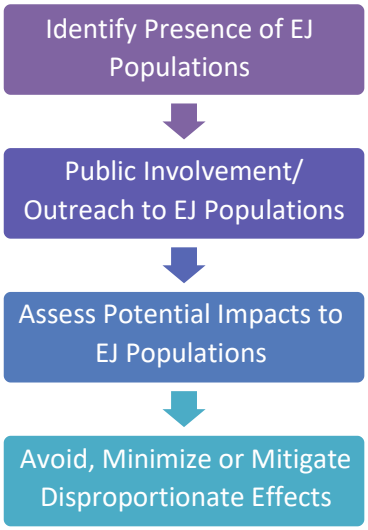

Figure 3- Environmental Justice Evaluation Process

If the above stipulations are met, the types of projects exempted from detailed EJ analysis include pavement preservation and roadway rehabilitation, bridge preservation, bridge rehabilitation and replacement, non-complex projects, such as intersection improvements, turn lane construction, signalization, signing, and pavement markings.

Identify Presence of EJ Populations:
Initial identification of EJ populations is a critical step in the project development process and will impact how coordination is conducted, alternatives are investigated, and mitigation are incorporated into the project. Additionally, the area to be investigated for EJ populations should be based on potential direct impacts, such as property acquisition and changes to access, in addition to indirect impacts, such as temporary detours and bus route changes.

Sources of information to determine the presence of EJ populations include US Census data, the American Community Survey (ACS), US Environmental Protection Agency's EJ Screen Tool, and the Delaware Valley Regional Planning Commission's Indicators of Potential Disadvantage (IPD) tool. Additional data sources may include field observations, information about affordable housing and other social services information.

Outreach, Effects, and Mitigation:
Utilizing the information gathered to identify EJ populations, a public involvement program can be customized to ensure that the EJ populations are engaged.

Once populations have been identified, impacts to these populations should be assessed. These impacts should include both indirect and direct, and include any significant natural, social, community or human health effects. Cumulative impacts should be assessed and any benefits resulting from the project should be listed. Coordination with local EJ populations should be conducted as part of this assessment to gain an understanding of the important community resources and features within the project area. The key decision of this analysis is to determine if there are disproportionately high and adverse effects to EJ populations. PennDOT's EJ Guidance addresses the question of disproportionality by determining:

1. If the adverse effects, either direct, indirect or cumulative, are predominately borne by EJ populations and/or

2. If the effects borne by the EJ populations are appreciably more severe or greater than those effects borne by non-EJ populations

If there are disproportionate impacts, mitigation should be incorporated into the project to alleviate the effect on the surrounding community and EJ population. In development of mitigation, the affected population should be closely coordinated with to determine what is important to the community and what could constitute suitable mitigation.

Project Specific Examples

Roosevelt Boulevard, from Broad Street to just east of the U.S. 1 interchange was screened using the EPA EJ Screen tool to determine the presence of EJ populations along the corridor. **Tables 4 and 5** summarize information gained from these tools and confirm the presence of EJ populations within the project's limit of potential indirect and direct effects.

Table 4 - Population by Race within a 1/2-mile radius of Roosevelt Boulevard / U.S. 1, Broad Street to just east of the U.S. 1 interchange (ACS Summary Report)

	2012 - 2016 ACS Estimates	Percent
Population by Race		
Total	154,847	100%
Total Hispanic Population	40,649	26%
Total Non-Hispanic Population	114,197	
White Alone	44,906	29%
Black Alone	49,234	32%
American Indian Alone	314	0%
Non-Hispanic Asian Alone	16,029	10%
Pacific Islander Alone	48	0%
Other Race Alone	439	0%
Two or More Races Alone	3,228	2%

Table 5 - Households Income (ACE Summary Report)

	2012 - 2016 ACS Estimates	Percent
Households by Household Income		
Household Income Base	51,311	100%
< $15,000	10,536	21%
$15,000 - $25,000	7,535	15%
$25,000 - $50,000	14,580	28%
$50,000 - $75,000	8,481	17%
$75,000 +	10,178	20%

Based on the ACS summary data, EJ populations are present within a half mile surrounding Roosevelt Boulevard. While it is unclear at this time whether a detailed EJ analysis is required for the recommended improvements for 2025, long term improvements will require a detailed EJ analysis including coordination with the surrounding community and careful assessment of effects.

Timing and Impact on Project Schedule

The approach to the EJ analysis, including the footprint of the Program area, should be determined as the two 2040 alternatives are further analyzed. Identifying and collecting input from surrounding EJ populations early in the planning stage of this project will allow for a higher degree of flexibility in

design to either avoid or minimize impact to EJ populations. Due to the significant transformation envisioned in both 2040 alternatives, public outreach and EJ analysis will be a significant effort.

Air Quality

Overview

The 1970 Clean Air Act (CAA) established procedures for evaluating transportation projects in various regions across the United States. As mandated by NEPA and Pennsylvania's Act 120 legislation, a project's potential effect to the human environment, which includes air quality, must be assessed as part of the project development process. According to the EPA's National Ambient Air Quality Standards (NAAQS), there are seven pollutants reviewed, including carbon monoxide, ozone, particulate matter (PM2.5 and PM10), nitrogen oxides, sulfur dioxide, and lead. Research has found that transportation projects can directly cause a number of these pollutants.

Process Flow

Like other environmental analyses, there is a recognition that certain projects, based on previous experience, will not result in significant impact to air quality. Projects that are exempt from Project Level and Regional Conformity Analyses are detailed in Table 2 of 40 Code of Federal Regulations (CFR) 93.126. Projects that are not exempt from regional or project-level analysis are evaluated to determine if there is an air quality concern. At a regional level, this evaluation includes organizations such as the Pennsylvania Department of Environmental Protection (PADEP), U.S. Environmental Protection Agency (EPA), FHWA, FTA, DVRPC, and PennDOT. Projects determined to not be of regional air quality significance are excluded from regional conformity analysis. Projects or activities that do not qualify for an exemption need to be evaluated further to determine the type and level of analysis required for each of the above listed air pollutants.

Project Specific Examples

Tables 6 and 7 include a summary of project type for 2025 improvements and the anticipated air quality analysis based on the recommendations of PennDOT's Project-Level Air Quality Handbook (Publication 321).

Table 6 - Anticipated Air Quality Analysis (2025 Improvements)

Type of Project	Anticipated Air Quality Analysis
Signal Improvements	Exempt- (Traffic control devices and operating assistance other than signalization projects)
Median/Curb Improvements	Exempt- (Bicycle and pedestrian facilities, adding medians, pavement resurfacing and/or rehabilitation)
Offset Left turns	Exempt- (Pavement resurfacing and/or rehabilitation)

Michigan Lefts	Exempt- (Pavement resurfacing and/or rehabilitation)
Crossover Modifications	Exempt- (Pavement resurfacing and/or rehabilitation)
Woodhaven Road Interchange Modification	Exempt- (Traffic control devise and operating assistance other than signalization projects)
Curb Extensions	Exempt- (Bicycle and pedestrian facilities)
Turn Bay Modifications	Exempt- (Shoulder improvements)
Side Street Lane Additions	Not Exempt
Transit	
Business Access and Transit (BAT) Lanes	Not Exempt
Pedestrian and Bicycle	
Pedestrian Lighting Improvements	Exempt- (Lighting Improvements)
ADA curb modifications	Exempt- (Bicycle and pedestrian facilities)
Crosswalk and Refuge Modifications	Exempt- (Pavement marking demonstration, adding medians)
Bicycle facilities and sidepaths	Exempt- (Bicycle and pedestrian facilities)
Additional	
Landscape Improvements	Exempt (Plantings, landscaping, etc.)

Table 7 -Anticipated Air Quality Analysis (2040 Alternatives)

Type of Improvement		Air Quality Analysis
Roadway	**Alternative**	

Partially Capped Expressway and Ramps	1	Not Exempt
General Purpose Lane Removal	2	Not Exempt
Add Minor Intersections	2	Exempt from Regional Level Conformity Analysis only
Eliminate Crossovers	2	Exempt- (Pavement resurfacing/rehabilitation)
Reduce Driveways/Curb Cuts	1 & 2	Exempt- (Pavement resurfacing/rehabilitation)
Semi-Actuated or Adaptive Signals	??	Exempt- (Traffic control devise and operating assistance other than signalization projects)
Transit		
New Dedicated Bus Lanes (in median)	1 & 2	Not Exempt
Pedestrian and Bicycle		
Two-Way Cycle Track		Exempt- Bicycle and Pedestrian facilities
Sidewalk and Median Enhancements	1 & 2	Exempt- Bicycle and Pedestrian facilities

Timing and Impact on Project Schedule

Based on the preliminary screening of the improvements proposed for the corridor, project level air quality analysis is anticipated. Air quality analyses are to be completed as part of the preparation of the NEPA document. The level of air quality analyses needed can range from a simple qualitative discussion of potential air quality impacts and emissions calculations to the use of a regional air quality model. The level of analyses and the associated duration to complete such will depend on current air quality conditions, estimated emissions from a project, duration of the new emissions, and the types of pollutants that will be emitted.

Noise

Overview

23 CFR 772 'Procedures for Abatement of Highway Traffic Noise and Construction Noise' applies to all projects that request federal funding. These regulations require the following activities occur during project planning and design:

1. Identification of traffic noise impacts; examination of potential mitigation measures
2. The incorporation of reasonable and feasible noise mitigation measures into the highway project

Process Flow

PennDOT's 'Project Level Highway Traffic Noise Handbook' (Publication 24) outlines a seven-step process to assess project level noise impacts, beginning with initial project level scoping and determination of the appropriate level of noise analysis and continuing through the consideration of construction noise. The handbook also outlines the requirements for community and agency

involvement. The initial determination of the appropriate level of noise analysis begins with the categorization of the project as either a Type I, II, or III project, as defined below:
Type I - Typical Type I projects include the construction of a highway on a new location or the physical alteration of an existing highway where there is either substantial horizontal or vertical alterations. Substantial horizontal alteration is defined as halving the distance between the traffic noise source and the closest noise
receptor. Substantial vertical alteration is defined as removing the line of site between the receptor and the noise generator. Additional Type I projects include the addition of through-traffic lane(s), such as high-occupancy vehicle (HOV), bus lanes or auxiliary lanes (except turn lanes). Note, that if part of a project is determined to be a Type I project, the entire project area is defined as a Type I project.
Type II - Type II projects are for the addition of traffic noise abatement on existing highways.
Type III - Type III projects are those projects that are not classified as either Type I or Type II projects and can include rehabilitation of existing roadways and bridges and non-through lane intersection improvements. Type III projects are exempt from noise analysis; however, a qualitative analysis is still required to justify its classification as a Type III project.

Project Specific Examples
To determine the level of noise analysis required for both short-term and long-term improvement projects along Roosevelt Boulevard, several considerations must be assessed for each proposed action. For changes in traffic volumes, composition and speed must be evaluated. When proposing geometric changes between the existing roadway and nearby noise receptors, impacts should be investigated, and public controversy and perception needs to be weighed.

Short-term Improvements - 2025 improvements recommended in the Program largely involve the modification of existing facilities to enhance safety, accessibility, and reliability of the Boulevard and appear to qualify as Type III activities. It is important to clarify that the proposed BAT lanes are not adding new travel lanes; rather, they will be constructed by converting existing travel lanes, and therefore would also qualify as a Type III activity.

Long-Term Improvements- Discussion with state and federal partners is required to confirm the need for and level of noise analysis for either of the 2040 alternatives. For example, if Alternative 1, the Partially Capped Expressway is pursued, detailed analysis may not be required as the proposed condition may not reduce the distance between the nearby sensory receptors and the flow of traffic. However, if additional lanes are added for transit or motorists, the entire project may qualify as a Type I project and require a detailed noise analysis. Before a conclusion can be made on the need for noise abatement, additional analysis will be required.

Timing and Impact on Project Schedule
The level of noise analyses and the associated duration to complete will depend on a variety of factors including the type of project and its footprint, existing land uses, potential project noise and level of impact, and noise sensitivity of surrounding land uses. A noise screening analyses would be conducted to determine the level of noise impact assessment that would be required.

ADDITIONAL ENVIRONMENTAL CONSIDERATIONS
This document serves the purpose of outlining major environmental considerations for the Boulevard project moving forward including cultural resources, environmental justice, air quality, and noise. There are; however, many other resources that also must be considered under NEPA as design

progresses for both short-term recommendations and long-term alternatives. Examples of these additional resources are provided below.

Threatened and Endangered Species
A preliminary screening of the corridor was conducted to determine the presence of threatened or endangered species. This screening can be accomplished through the Department of Conservation and Natural Resources (DCNR) Conservation Explorer website (conservationexplorer.dcnr.pa.gov). The screening casts a buffer around the project area, categorizes the type of project and, based on the anticipated work and surrounding resources, identifies the agencies that will need to be coordinated with. For the Roosevelt Boulevard screening, it was assumed that minor tree clearing (one acre or less) will occur and that work within streams will be necessary. As the project progresses, these assumptions can be refined. Based on the preliminary screening, coordination should be anticipated with the PA DCNR and the PA Fish and Boat Commission.

Section 4(f)/2002 Resources

- Hunting Park
- Tacony Creek Park
- Pennypack Park
- Hayes Memorial Playground
- Benjamin Rush State Park
- Poquessing Valley Park
- Conwell Park
- Other historic sites that are eligible or listed in the National Register of Historic Places

Special consideration is required for recreational resources, which may be impacted by transportation projects under Section 4(f) of the US Department of Transportation Act of 1966, as well as Section 2002 of the Administrative Code of 1929 (PA Act 120). Permanent conversion of Section 4(f)/2002 protected land to transportation use should be avoided if possible. If temporary or permanent impacts cannot be avoided, they should be minimized to the extent possible and appropriate mitigation should be implemented. Based upon both the short-term recommendations and long-term alternatives, impacts to adjacent park land is anticipated to be limited to temporary construction easements, or no more than minor right-of-way impacts and temporary alterations to access. These limited impacts can be documented using streamlined documentation and are not anticipated to have a significant impact on the project schedule. A written agreement with appropriate federal, state, or local official(s) with jurisdiction over the property may be required. Impacts to historic sites will need to be assessed as design progresses.

Section 6(f)/Land Water and Conservation Funded Lands

- Pennypack Park

The Land and Water Conservation Fund (LWCF) Act of 1965 created a nationwide program for the preservation and development of recreational resources. Special protections are in place for lands that have utilized LWCF funds. In cases where LWCF lands must be acquired or are temporarily impacted for more than 6 months, replacement of the land is required with equivalent protected land. Coordination to document Section 6(f) impacts can range from six months to a year or more, depending on the level of impact and the availability of replacement land.

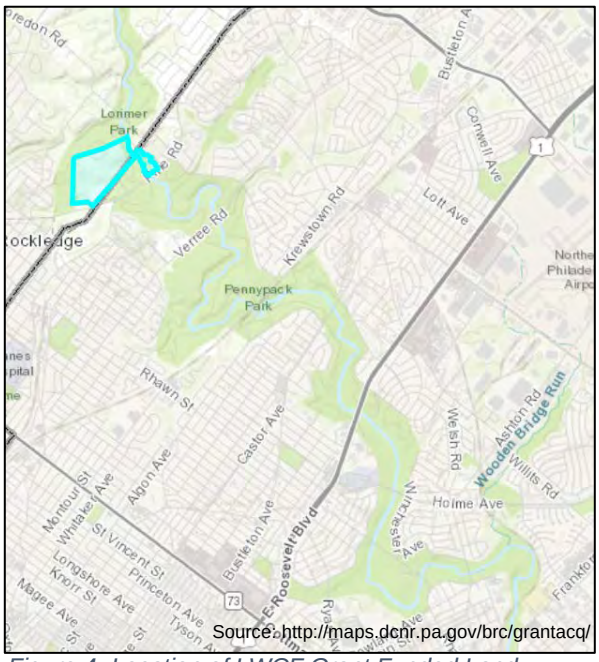

Figure 4- Location of LWCF Grant Funded Land highlighted in blue

Based on background research using the Department of Conservation & Natural Resources (DCNR) Grant and Acquisition viewer, there are several parks within Philadelphia that have utilized LWCF funding. Within the Program Area, Pennypack Park received an LWCF grant in 1977 to acquire 9.2 acres of land located along Pennypack Creek, near the Montgomery County Line. The purpose of this purchase was to extend the limits of Pennypack Park. Although this land is not located within the project area, once LWCF funds are expended on a park, the entire park is considered protected under Section 6(f). As a result, permanent impacts to Pennypack Park or temporary impacts in excess of 180 calendar days in duration should be avoided if possible.

Hazardous Waste

- Various active and inactive storage tanks

There is high potential for contaminated soils, especially surrounding previous or abandoned gas stations, dry cleaners, and other facilities known to use industrial chemicals, based on the presence of active and inactive storage tanks throughout the project area, A full Phase 1 Environmental Site Assessment (ESA) may be required for a project area to determine the potential presence of contaminated soils and to determine if additional testing is required. The Phase 1 ESA reviews available documentation of the project area, including records of hazardous materials retained at the PA Department of Environmental Protection (PADEP) to establish the potential presence of contaminated materials within the project limits. Based on the findings and proposed disturbances, the Phase 1 ESA will recommend next steps, which may include testing of soils based on proposed levels of excavation or testing of groundwater.

Socioeconomic Resources

Socioeconomic resources include displacements, community cohesion, community facilities and services, planned development, and local and regional economy. It is essential to avoid and minimize impacts to socioeconomic resources and to take local land use planning and community goals into consideration. The proposed projects are expected to enhance community cohesion, planned development, access to community facilities and services, and the local and regional economy by creating a more inviting corridor that is safe, accessible, and reliable for residents, visitors, employees,

and commuters. Displacements to residences and businesses as a result of these improvements should be avoided and minimized to the extent practicable in accordance with the purpose and need of the project.

CONCLUSION

This document serves as an introduction into the various environmental and cultural resources that should be considered as both the short-term recommendations and long-term alternatives analysis progresses. Additional detailed study will be required to establish the presence and boundaries of resources present, as well as to better understand the significance of potential effects to these resources. As part of the planning and alternatives analysis phase, it is recommended that coordination with state and federal agencies be conducted to confirm the level of analysis and documentation needed for activities described in this document.

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i It should be noted that projects funded with City capital has an internal process that includes Streets Department plan review to check feasibility and constructability of the project.

[ii] Note, boundaries of historic resources within the CRGIS system must be verified with historic records

Route for Change

Transforming The Boulevard

Roosevelt Boulevard

Section 4 – Appendix 17

Purpose and Need Statement

February 2020

I. INTRODUCTION

Theodore Roosevelt Memorial Boulevard, more commonly known as “Roosevelt Boulevard” or simply “the Boulevard”, was first proposed in 1902 as a way to connect the Philadelphia’s city center to the northeastern neighborhoods. Designed as a green and monumental roadway facility at the peak of the City Beautiful Movement, the first section of the Boulevard was completed in 1914, and then later extended northeast to Bucks County and southwest to Interstate 76 (I-76).

The construction of Roosevelt Boulevard facilitated a mid-century development boom that brought homes, shopping centers, and industrial parks to northeast Philadelphia. With this development, travel changed within the corridor, particularly for cars and trucks as land uses evolved and shifted from neighborhood focused development to automobile-focused development.

The community along Roosevelt Boulevard has continued to change as well, with an increase in transit-dependent households, the number of people living in poverty, and high number of minority and limited English proficient populations. At the same time, the Boulevard has become an alternate route for the heavily traveled and often congested I-95 corridor. The function shift of Roosevelt Boulevard from a community roadway to a major arterial regional roadway has created a facility that contains a mix in the types of travel. The mixing types of travel creates modal conflicts between the various modes of travel (e.g. pedestrian and automobile) and causes transportation problems in the corridor.

The City of Philadelphia in cooperation with the Pennsylvania Department of Transportation (PennDOT) and the Southeastern Pennsylvania Transportation Authority (SEPTA) received a United States Department of Transportation (USDOT) TIGER planning grant to develop a program to transform Roosevelt Boulevard. This program, called the “Route for Change” Program, will develop a series of improvements to create a more inviting corridor that is safer, more accessible, and more reliable for all users including residents, pedestrians, cyclists, transit riders, motorists, and visitors.

This preliminary Purpose and Need Statement provides background information and data to identify the transportation deficiency or problem Roosevelt Boulevard (also known as U.S. 1) from Broad Street (PA 611) in the City of Philadelphia to the Neshaminy Mall in Bensalem Township, Buck County, Pennsylvania (**Figure 1)**. As Roosevelt Boulevard is a multi-modal corridor, the transportation needs include challenges for pedestrians, bicyclists, motorists, and transit riders. The Route for Change Program purpose will define a set of objectives that guide the Program team in addressing transportation deficiencies. This preliminary Purpose and Need statement provides a foundation for the development and evaluation of transportation alternatives.

The following section includes a discussion about previous studies, current and future conditions in the Program Area, and problems and potential solutions related to mobility in the corridor.

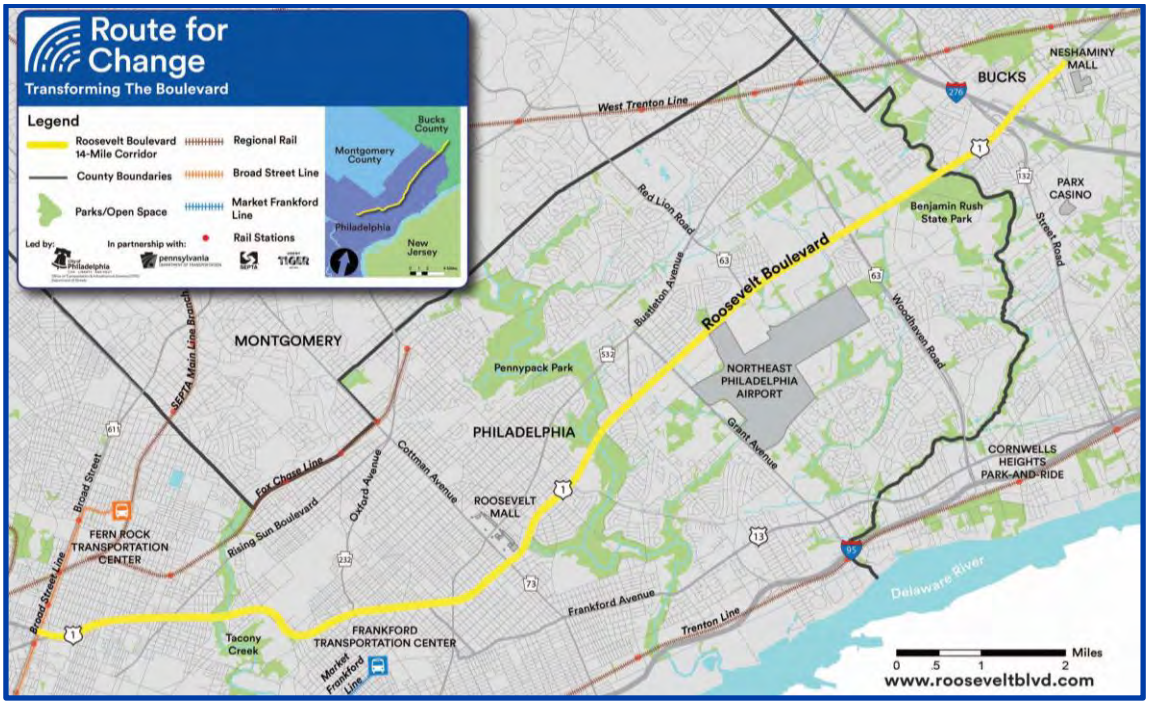

Figure 1: Program Area

II. BACKGROUND

Roosevelt Boulevard Facility Description and Proposed Program Area

Roosevelt Boulevard is a major north-south, twelve-lane (six inner express lanes and six outer local lanes), 300-foot wide divided urban arterial roadway that provides passage for 39,000 to 89,000 vehicles on a daily basis (**Photograph 1**). The Boulevard extends through a densely populated, diverse cultural and economic communities, which creates differing travel dependency for local and regional residents. Roosevelt Boulevard also is a primary bus corridor in the North and Northeast sections of the City of Philadelphia.

Photograph 1: Roosevelt Boulevard depicting typical lane configuration.

The Program area is 14 miles long and includes Roosevelt Boulevard (U.S. 1) from Broad Street (southern limit) to the Neshaminy Mall at Rockhill Drive in Bensalem Township, Bucks County (northern limit). The Program area is bounded by a half-mile buffer on either side of the existing facility and includes all intersection and connecting street routes that link to the Boulevard.

Previous Studies and Planning Context

Over the years, a number of planning studies have been completed that evaluate Roosevelt Boulevard's existing conditions and challenges. Each one offers specific recommendations for transportation solutions for the corridor. The most recent studies are summarized in the *Review of Previous Studies Technical Memorandum* (2016) prepared for the Route for Change Program and include:

- *Roosevelt Boulevard Corridor Transportation Investment Study* (2003),
- *US 1 Roosevelt Boulevard Corridor Study* (2007),
- *Philadelphia 2035 Citywide Vision 2nd Edition* (2011),
- *Philadelphia Pedestrian and Bicycle Plan* (2012),
- *Lower Northeast District Plan* (2012),
- *Philadelphia Trail Master Plan* (2013),
- *Central Northeast District Plan* (2014),
- *Neshaminy Mall Transit Center Evaluation And Concept Plan* (2014),
- *Philadelphia Trail Plan Update* (2015),
- *North Delaware District Plan* (2016), and
- *Alternatives Development for Roosevelt Boulevard Transit Enhancements* (2016).

Some planning and study efforts have resulted in the implementation of improvements along Roosevelt Boulevard. A summary of these include:

- PennDOT rehabilitated Roosevelt Boulevard by investing $27 million in safety and road improvements from 9th Street to the Buck County line (1995 – 1997).
- City of Philadelphia installed larger speed limit and brighter pedestrian crossing signs (2002).
- PennDOT starts providing the Philadelphia Police Department with grant funds to conduct additional traffic enforcement on the Boulevard (2002).
- PennDOT continues to work with the City of Philadelphia and Philadelphia Parking Authority on automated red light enforcement cameras (2005 to present).
- PennDOT invested $6 million to repair and resurface the Boulevard's local and express lanes between 9th Street and the Bucks County line (2006).
- PennDOT designated Roosevelt Boulevard a "Highway Safety Corridor" from 9th Street to the Bucks County to enhance safety for pedestrians and drivers. Double fines are applied for certain traffic violations, such as speeding, reckless driving, and tailgating (2007).
- PennDOT provided the Philadelphia Police Department with six speed-display trailers to flash driving speeds to motorists traveling on the Boulevard (2007).
- PennDOT installed 488 pedestrian crosswalk countdown timers at 46 locations and upgraded painted crosswalks (2008).
- Public safety education/information/awareness program conducted to enhance pedestrian and vehicular safety on Roosevelt Boulevard (2008-2010).
- PennDOT completed a $2.8 million safety improvement project to signalized five mid-block crosswalks, removed five mid-block crosswalks and establish a new signalized crosswalk; installed 12 pull-off areas in the median to provide police with a safe location for enforcement and a visual presence; enhanced median pedestrian refuge areas in two locations; and installed speed advisory signs on three bridges over the Boulevard (2013).

- City of Philadelphia performed a $750,000 project to paint fresh pavement markings on Roosevelt Boulevard (2013).
- PennDOT resurfaced the deteriorated inside travel lanes of Roosevelt Boulevard between 9th Street and the Bucks County line (2014).

Regional Planning Context

Delaware Valley Regional Planning Commission (DVRPC), the Metropolitan Planning Organization (MPO), is responsible for long-range transportation planning in the City of Philadelphia metropolitan area.

Their most recent Long Range Plan (LRP) is *Connections 2040 Plan for Greater Philadelphia (Connection 2040)* (2013). This plan outlines a vision for the future of Philadelphia and works to integrate four basic principles: manage growth and protect the environment; create livable communities; build the economy; and establish a modern multimodal transportation system. *Connections 2040* also communicates the region's transportation vision, goals, and strategies for all modes of transportation. The plan identifies over $91.7 billion worth of roadway and transit projects within the Pennsylvania portion of the DVRPC region over the 2014-2040 time period. These projects are typically designed to preserve and maintain the existing Pennsylvania transportation network with few expansion projects identified. However, the list of projects to be implemented during this timeframe is constrained by the amount of funding that is anticipated to be available to the region over the life of the plan. *Connections 2040* provides funding for approximately one-third of the identified projects in Pennsylvania ($33.2 billion). Roosevelt Boulevard roadway and transit projects listed in the LRP include the expansion of US 1 from I-276 north to the New Jersey state line. Additional necessary but smaller scale projects are listed in the Transportation Improvement Program (TIP). While the region has recognized that improvements are necessary along the Roosevelt Boulevard, additional planning and programming of future transportation funds will be necessary to accommodate additional transportation needs within the corridor.

III. Purpose Statement

The purpose of the Route for Change Program is to identify multimodal transportation improvements that can be phased to accomplish interim year improvements by 2025 and be built upon with long-term improvements to accomplish an overall corridor vision by 2040.

These improvements are expected to enhance safety, accessibility, and reliability along Roosevelt Boulevard, by supporting local and regional travel needs, changing land use patterns, enhancing connectivity and mobility to local communities, and promoting economic opportunities.

IV. Program Area Needs

The following sections summarize the identified transportation problems and travel issues by transportation mode users: for people driving, riding transit, riding a bike, or walking. The needs describe a problem in the Program area and, to the extent possible, explain the underlying causes of those problems.

Roadway Problems:

- **The geometric configuration and current design of Roosevelt Boulevard adversely influences driver behavior**
- **Congestion at key intersections and travel demand along Roosevelt Boulevard**
- **Roadway support facilities are missing or inconsistent within the Program area**
- **Crashes along Roosevelt Boulevard were so severe and so frequent that they accounted for significant portions of all crashes and fatalities in Philadelphia**

Geometric Configuration

The design of Roosevelt Boulevard is complex as it alternates between an expressway and principal arterial roadway cross section throughout the Program area (**Figure 2**). In the southern end of the Program area, Roosevelt Boulevard, from Broad Street to approximately 1,500 feet north of Broad Street consists of four limited access lanes (two northbound and two southbound separated by a concrete median). This section is depressed with no connectivity to the local street network. The speed limit is 40 miles per hour (mph).

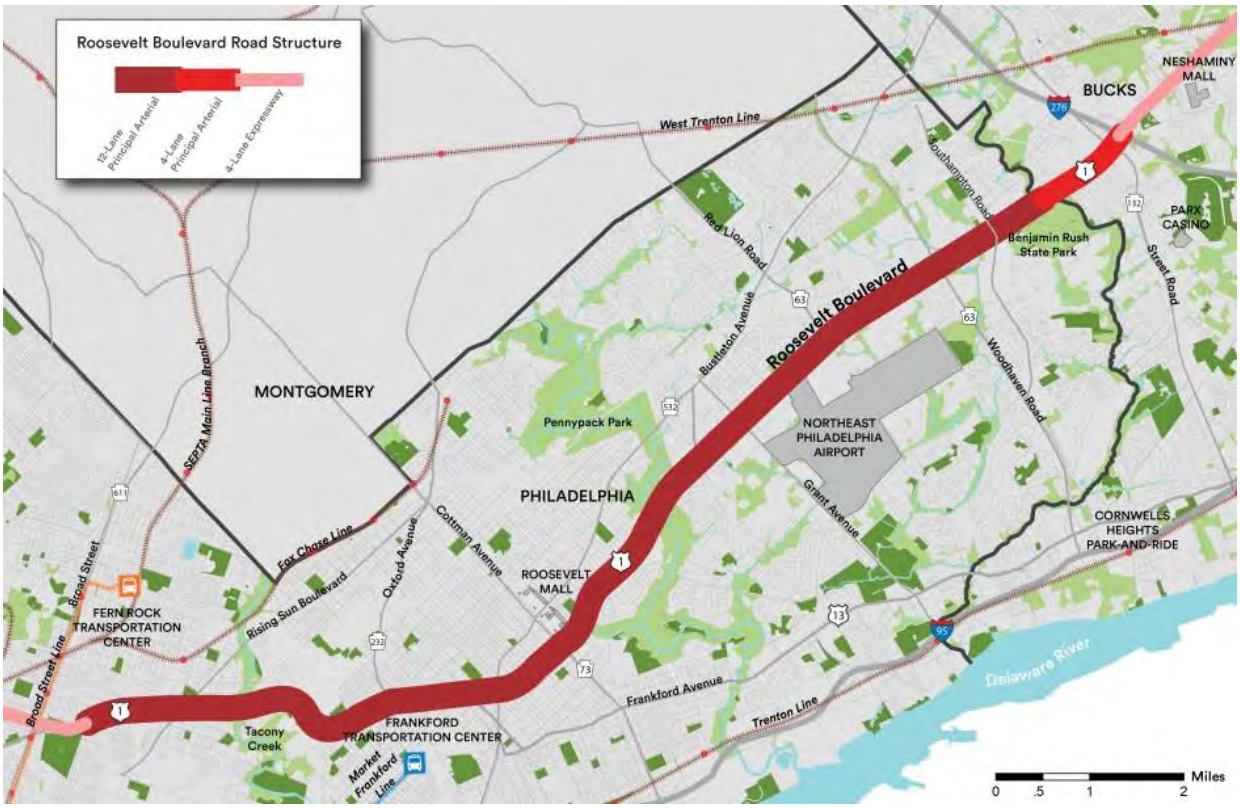

Figure 2: Expressway and Principal Arterial Cross Section Locations

Roosevelt Boulevard then transitions to a 12-lane roadway with four sets of three lanes of single-directional traffic with the inner six lanes functioning as express lanes and the outer six lanes functioning as local lanes (three lanes northbound and three lanes southbound). This typical section extends nearly 12-miles from just north of Broad Street to approximately 2,000 feet north of Southampton Road. Through this section of the Program area, the right-of-way width is approximately 300-feet with a varying grassy median width of 12 to 82 feet depending on the need for left-turn lanes. Right-turn access to local street network is made from the outer lanes and left-turn access to the local street network is provided from the inner lanes. Local streets can

generally access both inner (express) and outer (local) lanes. People driving can also transition between the inner (express) and outer (local) lanes within the corridor at one of the 54 crossovers locations. Crossover design is not consistent and there are irregular distances between crossovers. They have varying storage capacity, inconsistent crossover location signage, missing signage identifying the local roadway served by the crossover, and irregular distances between the crossovers. Throughout this section, there are five grade separated local road intersections, 5th Avenue goes under the Boulevard's inner (express) lanes and Oxford Circle, Cottman Avenue, Holme Avenue / Solly Avenue, and Woodhaven Road go over the outer (express) lanes. The posted speed limit is 40 miles per hour (mph) from north of Broad Street to Ryan Avenue and 45 mph north of Ryan Avenue in the northbound lanes and 40 miles per hour (mph) from north of Broad Street to Faunce Street and 45 mph north of Faunce Street in the southbound lanes.

In the northern section of the Program area, Roosevelt Boulevard transitions at a point 2,000 feet north of Southampton Road to six lanes that allow access to local businesses and have turning movements with the local roadway network at signalized and unsignalized intersections. This typical section ends at I-276 and has a posted speed limit of 50 mph. From I-276 to Rockhill Drive (Neshaminy Mall), the roadway again transitions to a four-lane expressway with access to the local street network provided at designated interchanges. The speed limit in this section is 55 mph.

The design of Roosevelt Boulevard is further complicated as there are numerous signalized and unsignalized intersections. There are typically four types of intersections along this section of Roosevelt Boulevard, (1) typical grid or perpendicular intersections (e.g. Pratt Street, Rhawn Street, and Grant Avenue) (2) grade separated intersections (e.g. Oxford Circle, Cottman Avenue, Holme Avenue/Solly Avenue, and Woodhaven Road), (3) non-perpendicular or skewed intersections (e.g. 9th Street, Rising Sun Avenue, and Bustleton Avenue), and (4) T-intersections (e.g. Comly Road, Conwell Avenue, and Lott Street). The design of each of these intersection influences the turning movements that are permitted. Each intersection is unique. For example, drivers are prohibited from making left turns from the inner (express) lanes at some intersections and permitted at other intersections.

Overall, the design and layout along Roosevelt Boulevard is inconsistent due to changes in the layout of inner (express) and outer (local) lanes, numerous crossovers, differing intersections types, irregular signage system, complex turning movements, and changing typical section. Expectations of roadway users are impacted by these inconsistencies, which promote confusion between drivers, increase the number of conflict points of different modes, and encourage varying travel speeds.

Congestion and Travel Demand

Existing average annual daily traffic (AADT) volumes along Roosevelt Boulevard range from 39,000 to 89, 000 vehicles per day (PennDOT, 2017). In general, average daily traffic volumes are higher in the southern end of the corridor between Broad Street and peak at Cottman Avenue (**Figure 3**).

NUMBER	SEGMENT START	SEGMENT END	DAILY TRAFFIC VOLUMES*	DISTANCE (Miles)
1	N. Broad Street	Rising Sun Avenue	89,000	1.6
2	Rising Sun Avenue	Rising Sun Avenue - Whitaker Avenue	68,000	1.0
3	Whitaker Avenue	Oxford Circle	77,000	1.2
4	Oxford Circle	Bustleton Avenue	74,000	0.8
5	Bustleton Avenue	Harbison Avenue	60,000	0.4
6	Harbison Avenue	Cottman Avenue	68,000	0.8
7	Cottman Avenue	Rhawn Street	67,000	1.0
8	Rhawn Street	Holme Avenue/Solly Avenue	64,000	0.2
9	Holme Avenue/Solly Avenue	Welsh Road	61,000	1.2
10	Welsh Road	Grant Avenue	53,000	0.6
11	Grant Avenue	Red Lion Road	52,000	1.2
12	Red Lion Road	Woodhaven Road	39,000	1.3
13	Woodhaven Road	Philadelphia/Bucks County Line	55,000	1.2
14	Philadelphia/Bucks County Line	Interstate-276	53,000	1.0
15	Interstate-276	Rockhill Drive	84,000	0.7

* Source PennDOT 2017 Average Annual Daily Traffic (AADT) volumes. AADT is the typical daily traffic on a road segment for all the days in a week, over a one-year period.

Figure 3: AADT, PennDOT 2017

Congestion at signalized intersections of key cross streets is also a problem along Roosevelt Boulevard as people driving experience substantial delay. Traffic and associated signal phasing at intersections cause travel lanes to back-up through the intersections and makes left turning to and from the Boulevard challenging (**Photograph 2**).

Photograph 2: Roosevelt Boulevard at Welsh Road showing congested intersection and left-turn lane issues from cross streets

Roadway Support Facilities

Roadway support facilities are missing or limited within the Program area. Some segments of the Boulevard do not have adequate number of on-street parking spaces and updated LED roadway lighting. In addition, fiber optic lines are not present, which could enable rapid identification of incident locations and dispatch of emergency response, monitor traffic conditions, and provide signal priority during peak travel times.

Crashes on Roosevelt Boulevard

During the five years of crash data analyzed by the Program (2013 to 2017), there were 2,846 reportable crashes along Roosevelt Boulevard, or nearly 46 crashes per mile per year. Of all the fatal crashes that occurred in Philadelphia, 14% (54 total) were on the Boulevard, leading to 62 people dying along the Boulevard from 2013 to 2017. Additionally, 6% of all crashes in Philadelphia that resulted in serious injuries were along the Boulevard, resulting in 81 people inflicted with serious injuries in the same five-year timeframe.

During initial public engagement activities for the Route for Change Program in April 2016, the public agreed that safety improvements are one of the top priorities needed along Roosevelt Boulevard.

Transit Needs:

- **Close local bus stop spacing, high boarding volumes, and roadway congestion create longer and less reliable travel when compared to the motor vehicle travel experience**
- **Numerous transit amenities are missing along the Boulevard**
- **Safety concerns exists for transit riders along the Boulevard**

Transit Service and Ridership

SEPTA operates bus service transit in the outer most local lanes of Roosevelt Boulevard. Overall, there are nine transit routes (Routes 1, 8, 14, 20, 50, 58, J, K, and R) and 142 signed SEPTA transit stops within the Program area. However, Routes 1 and 14 provide the most extensive service within the Program area. Route 1 extends from the Parx Casino to 54th Street and City Avenue. Route 1 has 3,866 weekday passenger boardings and operates every 11 minutes during the morning peak hours and every 20 minutes during the evening peak hours. Route 14 connects Oxford Valley Mall and Neshaminy Mall to the Frankford Transportation Center and extends along Roosevelt Boulevard for a majority of its route. Route 14 has 11,943 weekday passenger boardings with headways as low as 5 minutes during morning and evening peak hours. Route 14 also offers 24-hour service (DVRPC, 2015).

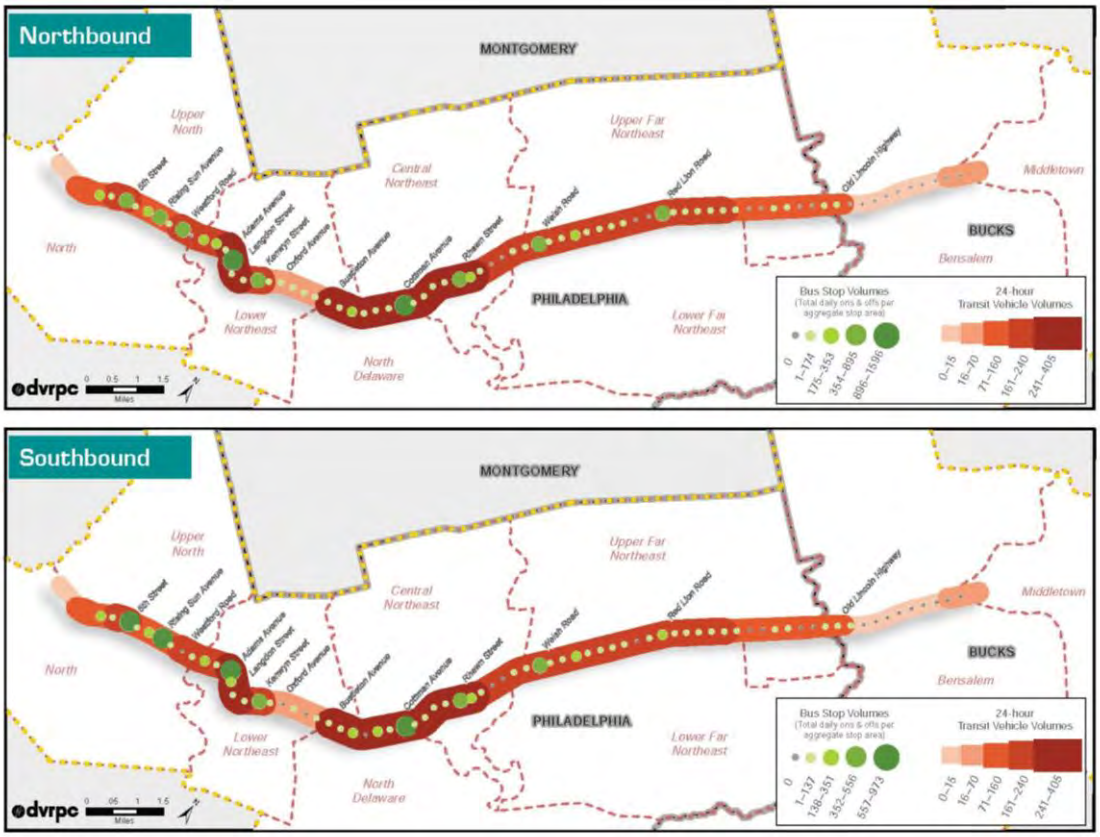

Figure 4: Bus Passenger and Vehicle Volumes (Source, DVRPC 2016)

The DVRPC's 2016 *Alternatives Development for Roosevelt Boulevard Transit Enhancements* study shows that while bus ridership and bus frequency are generally high along Roosevelt Boulevard, the highest volume stop locations are in the southern sections of the study area (**Figure 4)**. In general, the frequency data, as depicted in Figure 4, identify locations where multiple bus routes converge, thus providing generally higher ridership

volumes. While ridership and bus frequency are relatively high along Roosevelt Boulevard, the morning peak commute on Route 14 from Bustleton Avenue and Roosevelt Boulevard to Neshaminy Mall can take approximately 50 minutes to complete compared to a motor vehicle, which can complete the same trip in nearly half the time. This is a result of the bus routes having to share the congested roadway network and make frequent stops for boarding and alighting.

Transit Amenities and Technology

Of the 142 signed SEPTA transit stops within the Roosevelt Boulevard program area, only 22 stops have bus shelters (this includes Direct Bus Phase A stops) and the remaining stops are designated by transit signs attached to poles adjacent to Roosevelt Boulevard. In addition to a limited number of transit shelters, transit stops along the Boulevard are lack other amenities such as bicycle parking, trash cans, benches, and landing pads. This corridor also lacks real time transit information and Transit Signal Priority (TSP).

Transit Safety

Transit rider safety along Roosevelt Boulevard generally focuses on the rider's experience while waiting for buses, walking to transit stop locations, or transferring between transit routes. When transit facilities are not provided, many driveways or parking lots are used as rider waiting areas. Waiting in these areas creates an unsafe environment by providing potential conflict points between the transit rider and motorist who are also using these facilities. Many transit stop locations also have limited visibility as trees and street signs obstruct the view of approaching buses. In these cases, transit riders occasionally stand or lean into the street, which creates conflict points and promotes an unsafe situation for both the transit riders and motorists.

The safety of the transit riders walking to or between transit stops directly relates to the design of Roosevelt Boulevard. Safety concerns for transit riders are the same as those felt by pedestrians traveling along Roosevelt Boulevard. These concerns are captured in more detail in the Pedestrian and Bicycle section of this document.

Pedestrian and Bicycle

Pedestrian and Bicycle Needs:

- **The design of Roosevelt Boulevard creates challenges for pedestrians and bicyclists**
- **Safety is a concern for pedestrians and bicyclists**
- **There are pedestrian and bicycle amenities missing along the Boulevard**
- **There are missing connections for the pedestrians and bicyclists**

Roosevelt Boulevard Design and Safety

People walking and riding a bike need to safely and conveniently access the same designations and activities as people driving along the Boulevard. The design of Roosevelt Boulevard has basic provision of amenities for people walking and riding a bike, which results in conflicts between modes. Overall, there were 164 crashes involving people walking from N. Broad Street to the county boundary.

The 12-travel lanes are challenging for people to walk comfortably across and often requires numerous light cycles to cross the full Boulevard. Crossing distances along the Boulevard are very long and require the use of refuge islands. Existing refuge islands along the facility are narrow and long traffic light cycles create uncomfortable environments for pedestrians to wait on islands. In addition, complex turning movements and

intersection geometry, combined with heavy traffic volumes, create safety concerns and physical barriers for pedestrians and bicyclists.

Another underlying issue that promotes the potential for pedestrian conflicts is the land uses surrounding Roosevelt Boulevard. High density residential areas, commercial areas, community facilities, transit stops and local sidewalks generate substantial pedestrian activity, which is often in conflict with the volume and speed of vehicular traffic on the Boulevard. There are over 250 non-intersection access points along the Boulevard, which adds to the complexity of the problem and create conflict points between people driving and people walking. Many of the same challenges faced by people walking along the Boulevard are also faced by people riding a bike. Because the Boulevard's design does not provide a separation between the high-volume and higher speed drivers and people biking, traveling across or along the Boulevard on a bike is problematic.

Pedestrian and Bicycle Amenities

In general, the sidewalk network is complete south of Welsh Road; however, there are extensive sidewalk gaps north of Welsh Road within the City of Philadelphia. Where sidewalks exist, the actual walking experience is not ideal due to discontinuous sidewalks, inconsistent sidewalk conditions, and narrow sidewalk widths. Traffic intensity combined with a lack of consistent buffer from travel lanes contribute to uncomfortable conditions for people walking.

Despite these deficient or non-existent bicycle facilities, people do bicycle along and across the Boulevard, which is not a surprise because the Boulevard is the front door to many jobs, services, and industries. Lack of safe, useful bicycle facilities force people to bike on sidewalks and through parking lots, putting themselves and people walking at risk.

V. Program Goals and Objectives

The Route for Change Program goals listed below reflect the need to make the Boulevard safer, more accessible, and more reliable and will guide the Roosevelt Boulevard 2040 vision. The objectives provide guidance for attaining each goal. These goals and objectives are the foundation for assessing alternatives.

Theme	Program Goals	Program Objectives
Safety	Improve transportation safety for all modes of travel along the Boulevard by reducing the number of traffic fatalities to zero.	• Attain Vision Zero goals by reducing the number and severity of crashes along Roosevelt Boulevard • Induce drivers to drive the posted speed limit to improve the safety of all travelers, especially people who walk and bike • Increase the number and the quality of places where people can safely walk or bike along or across the Boulevard • Improve bus stops along the Boulevard to provide safe places for riders to wait
Accessibility	Better connect the modes of travel using the Boulevard so it is easier to reach more destinations and activities.	• Provide seamless connectivity between the various modes of travel along and across the Boulevard • Ensure travel along the Boulevard maximizes the number of destinations and activities people can reach • Provide more transit, pedestrian, and bicycle connections along and across the Boulevard • Ensure transportation options and new development remain affordable • Knit together neighborhoods across the Boulevard by reducing barriers to crossing the Boulevardd
Reliability	Provide dependable transportation options along the Boulevard.	• Maintain consistent vehicular traffic flow along the Boulevard • Improve the frequency and dependability of transit trips along the Boulevard • Incorporate walking, biking, and transit service connections to existing and future land use changes • Provide new transit servie that supports future mixed use and walkable station areas • Reduce the number of trips taken by single-occupancy vehicles by making walking, biking, and taking transit the fastest, safest, and most convenient options for travel

VI. Conclusions

After reviewing the current and future projected conditions within the Roosevelt Boulevard Route for Change Program area, it is evident a series of multimodal transportation projects with continuous, and increasingly

transformative, changes will create a more inviting corridor. As such, the Route for Change Program is needed primarily to address the following corridor-level issues:

- Driver behavior, the interaction of modes, and unusual design characteristics combine to put the traveling public at greater risk.
- Roosevelt Boulevard is a barrier for local communities. Crossing the Boulevard to access services and employment is difficult.
- Numerous bus stops and inconsistent signal timing contribute to unpredictable travel time on the Boulevard.

This preliminary Purpose and Need Statement, along with project goals and objectives, will help identify and prioritize proposed Roosevelt Boulevard improvement projects.