



**Streetscape Improvements
Park Street (CT Route 72)
Bristol, CT
Project No. 40968**

Preliminary Design Statement



Prepared for:
City of Bristol
111 North Main Street
Bristol, CT 06010

Prepared by:
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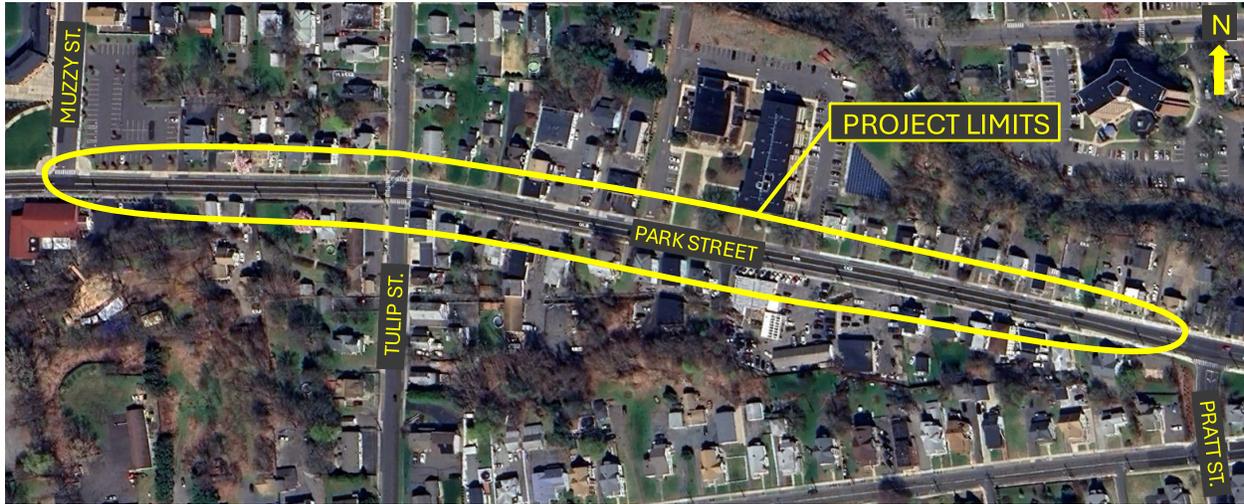
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Date: June 27, 2024

PRELIMINARY DESIGN STATEMENT
PROJECT NO. 40968
STREETSCAPE IMPROVEMENTS ON PARK STREET
CITY OF BRISTOL

Project Location:

This project is located on Park Street (State Route 72) between its intersection with Muzzy Street and intersection with Pratt Street for a total Project length of 1740 feet.



Existing Conditions:

Park Street is classified as an Urban Principal Arterial, running in the west-east direction and all other cross streets within the project limits (Muzzy Street, Tulip Street, and Pratt Street) are classified as local roads, running in the north-south direction. The 2018 ADT on Park Street was reported to be 9,400 vehicles per day and the posted speed limits ranges between 25 mph and 30 mph. Through the project corridor, Park Street is part of the State-owned right-of-way along Connecticut State Route 72. The right-of-way varies from 45 to 50 feet in width. The road was recently repaved with a mill and overlay in 2023 and the State of Connecticut completed an adjacent project at the Pratt Street intersection in Spring 2024, which is the eastern limit of the Park Street streetscape.

The typical roadway width on Park Street is approximately 26 feet, consisting of two 11-foot travel lanes and 2-foot painted shoulders. There are 4 – 5-foot-wide concrete sidewalks with grass buffer strips present along both sides of the roadway for the entire length of the project. There is one mid-block crossing at the historic Clara T. O’Connell School apartment building. Although Park Street has grass buffers fronting residential properties, the streetscape is considered low-quality and there are no other streetscaping elements such as street trees and pedestrian luminaires. Street lighting is provided by “cobra head” style luminaires that are mounted on utility poles.

Overhead utilities are present predominantly along the south side of the street, with the lowest wires at approximately 12’ to 14’ above grade and three-phase power located on triple cross bars at heights ranging from 20’ to 30’. The spacing of the poles varies along the corridor, but in general they are roughly 100 feet apart. There are multiple service crossings to poles and properties long the north side of the street. Within the roadway, underground water, sanitary



sewer, natural gas and storm drainage are present, with supporting structures such as manholes and gate valves at various locations. Service laterals are present from all buildings along the project limits on both sides of the street.

The uses along the corridor vary but are primarily multi-family house and light commercial along both sides of Park Street. Existing driveway aprons are present at all properties, though some access is shared between properties.

Project Purpose & Need:

The purpose of this project is to improve pedestrian accommodations and aesthetic qualities along Park Street between Muzzy Street and Pratt Street.

The project is needed because Park Street is primarily a residential street that also carries heavily travelled State Route 72. The existing sidewalk system provide access to Downtown businesses, employment centers, and other important services. Rockwell Park and Muzzy Field are destinations within the project limits that are well served by the sidewalk system. It is important to maintain and enhance pedestrian accommodation, comfort and safety along Park Street.

Proposed Improvements:

The 2022 study on which this project is based identified the need for pedestrian improvements and aesthetic improvements through this portion of Route 72. However, it did not assess adequacy of the existing roadway from a CTDOT criteria standpoint. It was assumed during that study that the roadway met CTDOT criteria for an Urban Principal Arterial. The base project was identified by the City of Bristol as replacing all curb, apron and walk from existing face of curb to ROW limits. This scope of work is represented by Alternative 1.

However, following the survey phase of this project and subsequent review of existing conditions, it was identified that the existing roadway width, which varies from west to east 26' to 29', is deficient and should be 30'. As part of this preliminary design phase, GM2 is providing an alternative design (Alternative 2), which would widen the roadway to a standard 30' wide along the corridor.

State of Connecticut General Statutes and CTDOT's Complete Streets guidance requires bicycle accommodations be incorporated into all roadway projects. There are currently no accommodations for bicycles along Park Street within the project limits and none are currently proposed as part of this project.

Alternative 1: Match Existing Curb Line

Proposed improvements include upgrading the existing curbing to Granite Stone Curbing and replacing all driveway aprons throughout the project limits to create a uniform cohesive look and further define the edge of road. Additionally, the existing grass buffer will be replaced with a standard 4-foot-wide brick paver apron. All Sidewalk and sidewalk ramps will replace and designed to meet current CTDOT and ADA requirements, Rectangular Rapid Flashing Beacons are proposed at the midblock crossing and pedestrian lighting is proposed within the brick paver shelf to improve pedestrian safety.

Alternative 2: Park Street Minor Widening



Proposed improvements under this alternative include minor widening of Park Street to bring the roadway up to criteria for an Urban Principal Arterial, which would accommodate 11-foot travel lanes and 4-foot shoulders, and the existing curbing will be upgraded to Granite Stone Curbing. This option would reduce the width of the brick paver buffer in order to keep the streetscape improvements within the ROW limits. Because of this, the cost of this alternative will be slightly lower since pavement is less expensive than brick pavers. Additionally, all driveway aprons will be replaced to create a uniform cohesive look and further define the edge of road. The existing grass buffer will be replaced with a 3-foot-wide brick paver shelf. All sidewalks and sidewalk ramps will be replaced and designed to meet ADA requirements, Rectangular Rapid Flashing Beacons are proposed at the midblock crossing, and pedestrian lighting is proposed within the brick paver shelf to improve pedestrian safety. The narrower brick paver shelf would barely accommodate a 3'x3' tree grate and could reduce the aesthetic of the streetscape.

There would be additional cost for this option for drainage improvements required to relocate existing catch basins to the new edge of road and extend existing pipes. Given that this widening would be localized to just within the project limits, this alternative may not be feasible if CTDOT does not have future plans to widen the roadway to the east and west of the project. Additional coordination with CTDOT regarding this alternative is necessary should the City choose to move forward with it.

Crash Data Analysis:

The Connecticut Roadway Safety Management System was used to collect and analyze the following crash data which falls within the proposed project limits on Park Street. From January 1, 2021, to December 31, 2023 (3 years) there were a total of 23 crashes with 7 injuries. None of the crashes involved pedestrians or bicyclists.

Crash Severity (7 injuries in 23 Crashes)

<u>Crash Severity</u>	<u>Total</u>	<u>Percentage</u>
B (Minor Injury)	4	17%
C (Possible Injury)	3	13%
O (Property Damage Only)	16	70%

Crash Type (23 Crashes)

<u>Crash Severity</u>	<u>Total</u>	<u>Percentage</u>
Sideswipe (opposite direction)	1	4%
Front to Front	2	9%
Non-Fixed Object	1	4%
Fixed Object	4	17%
Angle	7	30%
Front to Rear	8	35%

Contributing Factors

<u>Contributing Factor</u>	<u>Total</u>	<u>Percentage</u>
Following too Closely	7	30%
Failure to Grant Right-of-Way	6	26%
Failure to Obey Traffic Signal	2	9%



There were five crashes between January 1, 2021, and December 31, 2023, that involved a vehicle striking a fixed or non-fixed object within the project limits. The non-fixed object crash was the result of a vehicle and animal collision. A variety of contributing factors led to the occurrence of fixed object crashes. However, it is important to note that all fixed object crashes were a result of operators departing the roadway. The first incident involved an operator who fell asleep behind the wheel, leading to a collision with a fire hydrant. The second incident was caused by the operator's foot slipping off the brake pedal, resulting in a collision with a utility pole. In the third case, an operator with medical issues and a suspended license collided with a fire hydrant. Lastly, the fourth fixed object crash occurred when a tractor trailer attempted to turn right onto Park Street from Tulip Street, causing the trailer portion of the truck to collide with a crosswalk signal support.

Design Controls:

Park Street:

- Function Classification: Urban Principal Arterial
- Area Type: Intermediate

Local Roads:

- Function Classification: Urban Local Roads
- Area Type: Intermediate

Recorded Usage Data:

Average Daily Traffic (ADT):

	2018 ADT (vpd)	2021 ADT (vpd)
Park Street	9,400	10,450

Posted Speed Limit:

The posted speed limits are as follows:

Park Street	25 m.p.h.
Muzzy Street	30 m.p.h.
Tulip Street	25 m.p.h.
Pratt Street	25 m.p.h.

Design Standards:

The following Design Standards are used:

- CTDOT's Highway Design Manual, 2003 Edition (including Revisions to January 2023) (HDM)

As Park Street is a State Route and is part of the National Highway System Connection Department of Transportation (CTDOT) Design Standards were used to determine the design criteria for Park Street. CTDOT has developed criteria for the design of existing roadways under



different geometric constraints. More Specifically, Chapter Two (Geometric Design of Existing Highways for 3R Non-Freeway Projects) was used to develop the design criteria for Park Street.

Park Street: Two Lane Principal Urban Arterial

<u>Design Element</u>	<u>Design Value</u>
Type of Area	Intermediate
Travel Lane Width	11' – 12'
Shoulder Width (NHS)	4' – 8'
Parking Lane Width	N/A
Sidewalk Width	5' Minimum
Bicycle Lane Width	5'
Bicycle Lane Cross Slope	2%

Rights-of-Way:

Right-of-Way impacts include minor regrading of slopes and driveways to blend the proposed worked onto private properties. As Park Street is a State Route, the installation of RRFB at the mid-block crossing will require an Encroachment Permit to be submitted.

Pavement Composition:

Full-depth reconstruction is proposed throughout the project limits in the areas where the existing curbing will be upgraded to granite stone curbing. The following pavement composition will be installed within those limits:

- 2" HMA S0.375
- 2" HMA S0.5
- 6" Processed Aggregate
- 8" Subbase

Environmental Considerations/Permits:

There are no anticipated impacts to regulated areas along the Park Street corridor.

Bicycle & Pedestrians:

In 2017, the CTDOT and the Statewide Bicycle and Pedestrian Plan Update Steering Committee, developed a bicycle planning network for bicycle travel on state roads in Connecticut. Park Street was identified to be part of the on-road bicycle planning network. However, as Park Street has narrow shoulders in its existing condition any improvements for a bicycle network would require widening the roadway and/or the elimination of this existing buffer. Additionally, the Pequabuck River Trail Project is proposed in the City of Bristol, parallel with Park Street approximately 500' to the north. This project will provide a safe and comfortable network for bicyclist in the area and eliminate the need for such improvements on Park Street.



Utilities:

The following companies have utility facilities within the project limits :

- Eversource Energy – Electric Distribution
- Eversource Energy - Gas
- City of Bristol Water and Sewer Department
- Frontier Communications
- Comcast Cable
- Verizon Fios

Utility coordination has been initiated by GM2 for the Park Street project and is ongoing. Project notification letters and requests for mapping files has been sent to all utility owners listed in the CTDOT utility coordination guide as having facilities in Bristol, asking to confirm the locations of any facilities within the project limits. To date, four utility owners have confirmed their receipt of the notification. Once preliminary design plans have been reviewed by the City and an alternative has been chosen, additional information such as plans will be sent to the utility owners to review potential impacts to facilities. This will be followed by a field utility meeting to identify those impacts and determine options for designing to avoid the impact or relocating the utility.

There are limited known utility impacts for Alternative A, which would reconstruct the curbing and walk generally in their current locations. Installation of pedestrian lighting and street trees along the south side of the street could potentially conflict with overhead wires for both alternatives. Alternative B would move the curbing approximately 2' closer to the utility poles along the south side of the street, which could potentially lead to conflicts with the poles.

Maintenance Agreements:

Further coordination with the Department of Transportation will be required to establish a Maintenance Agreement that identifies the Town's responsibilities. It is anticipated the City of Bristol will be responsible for the following:

- Maintenance and operation of Rectangular Flashing Beacons
- Maintenance, operation and cost of decorative lighting
- Maintenance of decorative paver apron.

Schedule:

- Encroachment Permit: December 2024
- Contract Documents: December 2024
- Advertising: January 2025
- Construction: April 2025 to December 2025



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Estimated Project Cost:

Alternative 1: \$3.6 Million (Recommended Alternative)

Alternative 2: \$3.11 Million

See attached cost estimate breakdowns and back up information for each alternative for additional information.



PROJECT NO. 40968
STREETSCAPE IMPROVEMENTS ON PARK STREET
CITY OF BRISTOL
ALTERNATIVE #1 PRELIMINARY DESIGN ELEMENT

Anticipated year of expenditure

2025

Base year (cost based on expenditure in this year):

2024

Phase of Development:

Preliminary Design (30%)

Construction Cost Summary				
			ROADWAY	\$ 1,807,576
			STRUCTURES	\$ -
			TRAFFIC	\$ -
			ENV. COMPLIANCE/LANDSCAPE/ILLUMINATION	\$ -
Subtotal of Known Items =			70%	\$ 1,807,576
% of Base Estimate				
			Equivalent % of Known Items	
15%			MINOR ITEMS	21% \$ 387,338
3%	0201001		CLEARING AND GRUBBING	4% \$ 77,468
4%	0971001	MAINTENANCE AND PROTECTION OF TRAFFIC	6%	\$ 103,290
1%	0980020	A CONSTRUCTION SURVEYING	1%	\$ 25,823
7%	0975004	A MOBILIZATION AND PROJECT CLOSEOUT	10%	\$ 180,758
Contract Items (Base Estimate) =				\$ 2,582,252
INFLATION FACTOR 4%				
YEARS TO OBLIGATION 1				
Contract Items Corrected for Inflation =				\$ 2,686,000
			CONTINGENCIES 10%	\$ 268,600
			INCIDENTALS 25%	\$ 671,500
TOTAL CONSTRUCTION COST				\$ 3,626,100



PROJECT NO. 40968
PARK STREET STREETScape IMPROVEMENTS
CITY OF BRISTOL
ALTERNATIVE #2 PRELIMINARY DESIGN ESTIMATE

Anticipated year of expenditure

2025

Base year (cost based on expenditure in this year):

2024

Phase of Development:

Preliminary Design (30%)

Construction Cost Summary				
			ROADWAY	\$ 1,554,092
			STRUCTURES	\$ -
			TRAFFIC	\$ -
			ENV. COMPLIANCE/LANDSCAPE/ILLUMINATION	\$ -
Subtotal of Known Items =			70%	\$ 1,554,092
% of Base Estimate				
Equivalent % of Known Items				
15%			MINOR ITEMS	21% \$ 333,019.76
3%	0201001		CLEARING AND GRUBBING	4% \$ 66,604
4%	0971001	MAINTENANCE AND PROTECTION OF TRAFFIC	6%	\$ 88,805
1%	0980020	A CONSTRUCTION SURVEYING	1%	\$ 22,201
7%	0975004	A MOBILIZATION AND PROJECT CLOSEOUT	10%	\$ 155,409
Contract Items (Base Estimate) =				\$ 2,220,132
INFLATION FACTOR 4%				
YEARS TO OBLIGATION 1				
Contract Items Corrected for Inflation =				\$ 2,309,000
			CONTINGENCIES 10%	\$ 230,900
			INCIDENTALS 25%	\$ 577,250
TOTAL CONSTRUCTION COST				\$ 3,117,150

