

Meeting Purpose

- Explain how YOUR input has been used to inform the concepts development and screening process
- Ask for your input on the Reasonable Alternatives
- Outline the next steps in the project development process
- Gather information on historic or cultural resources and any potential impacts

Tuesday, October 26, 5-7 PM
R. L. Jones Center
391 Egypt Road, Mount Pleasant, SC

Wednesday, October 27, 5-7 PM
Felix C. Davis Community Center
4800 Park Circle, North Charleston, SC
CARTA Routes 13 & 104

Study Overview

SCDOT is conducting a Planning & Environmental Linkages (PEL) Study for the I-526 Lowcountry Corridor EAST (I-526 LCC EAST), which extends along **I-526 from Virginia Avenue in North Charleston to approximately US 17 in Mount Pleasant**. The PEL study examines existing and projected transportation issues within the corridor based on the input YOU provided during the 2020 public information meeting and survey. Your input validated the data we gathered and was used to develop the draft Purpose and Needs you see to the right.

This study will be used to establish a vision for the corridor that will guide future transportation improvement projects. Results of the PEL study will be carried forward into the next phase of the project development process, the National Environmental Policy Act (NEPA) process. After the needs are better understood in this corridor, and potential improvements identified, potential phasing and project opportunities, can be developed.



Project Purpose

The purpose for transportation improvements along this corridor is to **improve travel time reliability & reduce congestion** along I-526 from Virginia Avenue in North Charleston to US 17 in Mount Pleasant.

Identified Needs

Mobility

This is a busy corridor supporting a large number of people, goods, and services. The key issues are:

- Traffic congestion from high traffic volumes & limited capacity
- Over Capacity Roadways
- Unreliable Travel Times
- Congestion-Related Crashes

Roadway Deficiencies

The current roads, bridges, and interchange ramps are not designed to handle the current or future traffic demands. The key issues are:

- Shoulder Widths
- On & Off Ramp Lengths
- Tightly Curved Ramps

How was YOUR input used?

Your feedback is critical to the success of this Planning and Environmental Linkages (PEL) Study. Input received during this process is helping to establish the purpose, needs, and priorities for future improvements within this corridor. Insight gained from the online Survey (May - August 2020) and online public information meeting (July through August 2020) was used to:

- To validate the purpose & need for transportation improvements in the corridor**
- To refine project goals**
- To develop alternatives concepts**

Project Goals

A PEL study allows us to think strategically and fold in regional and community considerations. With your input, the following goals have been established. These goals provide additional guidance for creating improvement concepts and the evaluation of those alternatives concepts.

Compatibility: Align with local land use plans & projects

Demand: Accommodate increased numbers of vehicles

Seismic: Design any new roads or bridges with new earthquake standards

Connectivity: Improve connections with local ports, railway facilities, and transit

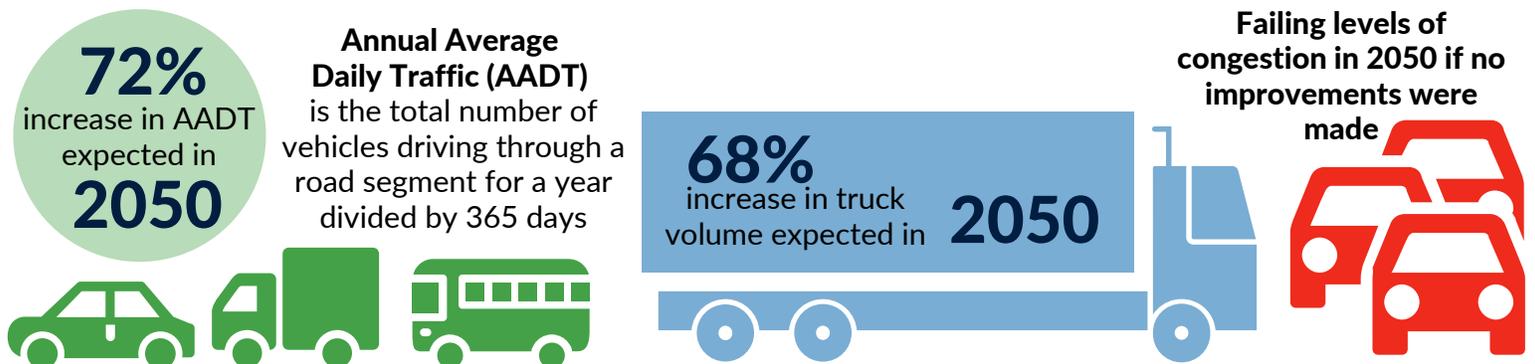
Safety: Reduce traffic-related crashes

Multimodal: Enhance movement through the corridor including through other modes such as carpool, transit, walk, or bike

Technology: Accommodate future transportation technologies for vehicles, system monitoring, driver information, and traffic operations

What did the data say about the need?

The data mirrors your concerns about growing congestion and mobility along the corridor. With the increased number of vehicles anticipated, the current traffic congestion is expected to increase and result in a failing level of service (think bumper-to-bumper traffic) throughout most of the corridor during morning and evening rush hours in 2050 if no improvements are made.



How and why do we measure Travel Time Reliability?

The Travel Time Index represents the additional time required to drive a certain route during rush hour, as opposed to when there is no traffic. Why would we use this measure? If roads have a lot of traffic, a slight disturbance can cause: excessive delays, have a greater impact, and take longer to recover than in a non-congested area.



Travel Time Index (TTI)

=

Time it takes to Get Somewhere
How long it would take to get there if you could go the speed limit



Why use this measure? If roads have a lot of traffic, even a slight disturbance can cause:

- **Excessive Delays,**
- **Have a Greater Impact,** and
- **Take longer to Recover** than in a non-congested area.

What would this tell me?

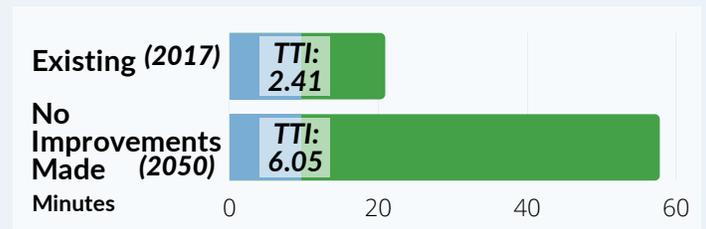
How long it would take to go from Virginia Avenue to US 17 in Mount Pleasant in 2050 when there is no traffic (blue) vs rush hour (green)

These graphs explain the Travel Time Index. Blue represents how long it would take to drive the corridor if there were no traffic like in the middle of the night (2050). Green represents the additional time it would take to travel the corridor during rush hour. **The green bars are substantially longer under the no improvement scenario - meaning it would take that much longer to drive the corridor during rush hour in 2050 if no improvements are made during.**

Eastbound - Going to Mount Pleasant



Westbound - Going to North Charleston



Legend: Middle of the Night (no congestion)

Rush Hour (heavy traffic)

What does this mean?



If no improvements were made, travel times are expected to increase in 2050 by:



193% traveling Eastbound Going to Mount Pleasant
104% traveling Westbound Going to North Charleston

Reminder: with increased congestion, a slight disturbance can create unreliable travel times when driving the corridor.

What types of concepts did we look at?

Based on your input, we developed several types of concepts. These range from the "do nothing" or "no build" alternative, to those designed to alleviate the demand on the corridor, to an alternative, parallel route. After those concepts were explored, we also evaluated how many lanes might be needed.

1 The "No Build" Alternative

What would happen if no improvements were made?

Increased travel times and congestion. Additionally, as congestion increases, congestion-related crashes typically increase.

2 Transportation Systems Management & Operations (TSMO)

What other options could help extend the life of I-526 and/or prevent the need for us to build anything?

TSMO strategies are used to extend the life of a highway and avoid or delay the construction of new lanes. Existing infrastructure may not always support these options without additional construction. In this case, TSMO strategies alone would not provide the level of improvement needed. Analyzed strategies are located on the next page.

3 Parallel Route

Why not build a new parallel road reduce traffic?

A new alternative route would only provide minimal improvements in congestion and travel speed. It also would not improve the roadway deficiencies of the existing I-526 corridor.

4 Adding Lanes

If we were to widen the existing road, how many lanes would we need in each direction?

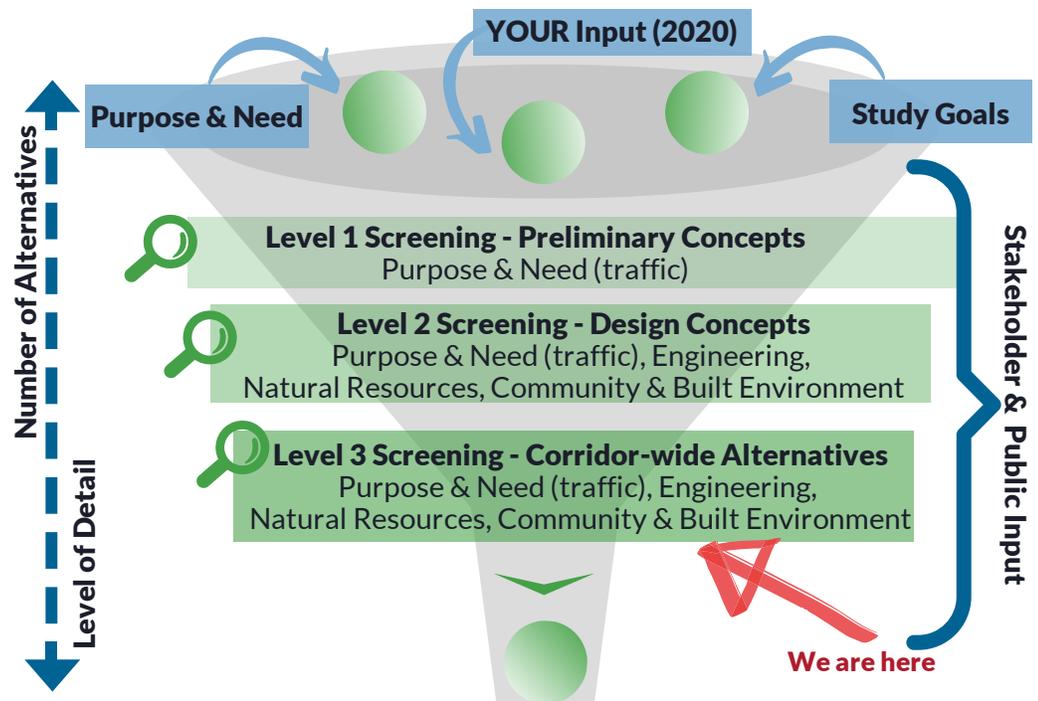
1 lane in each direction would not improve congestion or travel time enough in 2050. Adding 2 lanes in each direction would improve both congestion and the roadway deficiencies on I-526.

How were the alternative concepts evaluated?

The project team evaluated the alternatives through a three-step screening process to identify the reasonable alternatives that are presented today.

Each level of screening included a more detailed analysis of the alternatives. As the process progressed, poorly performing alternatives were removed from further review.

The resulting alternatives are proposed to be carried forward into the NEPA process.



Which TSMO options were analyzed to help prevent the need for construction?

TSMO strategies are designed to extend the performance life of infrastructure and avoid or prevent construction of new capacity. Because of the constraints of the existing bridges, it would not be possible to retrofit the corridor with enough TSMO strategies to fully address the capacity needs of the corridor. However, a planning-level analysis identified which TSMO strategies supported the project's need and should be further evaluated.

Proposed to be carried forward into NEPA



Shoulder Lane Use
i.e. "Bus" or "Car on Shoulder"
Shoulders are used as flexible travel lanes during rush hours



Accommodate Connected & Autonomous Vehicles
Uses technology to improve safety and operations



Park and Ride
Provides parking for ride sharing and bus use



Traveler Information
Incident Management
Road Weather Management
Work Zone Management



Variable Speed Limit
Speeds adjusted to optimize traffic flow



Enhance Lane Markings
Improves driver experience

Not reasonable for this project

Why not? These managed lanes options do not meet the Purpose & Need of the project without regional implementation. HOWEVER, any project constructed would be done in a manner not to preclude the implementation of a regional plan.



High Occupancy Vehicle Lanes
i.e. Carpool Lanes
High Occupancy Toll Lanes
Lane for vehicles with more than 1 passenger or those willing to pay
Dedicated Truck Lanes
Congestion Pricing
Includes a toll that changes to control the number of vehicles



Ramp Metering
Controls the number and pace of cars entering the freeway



Truck Platooning
Uses technology to allow multiple trucks to travel in a very tight formation

Why not? Some simulation models showed merging issues for general traffic.

How do the reasonable alternatives compare based on the identified criteria?

Below include highlights of the evaluation within the Level 3 Screening of the corridor-wide alternatives. As the project progresses, interchange designs and operations will be further evaluated. As an example, options are being considered to improve truck and automobile mobility through the Long Point Road interchange.

	No Build	Alternative 1	Alternative 2	Alternative 4	Alternative 5	Alternative 7
<p>Replace Don Holt Bridge?</p>	<p>Keep</p>	<p>Keep</p>	<p>Keep</p>	<p>Replace + Raise</p>	<p>Replace + Raise</p>	<p>Replace + Raise</p>
<p>Replace Wando Bridge?</p>	<p>Keep</p>	<p>Replace + Lower</p>	<p>Replace + Lower</p>	<p>Replace + Lower</p>	<p>Replace + Lower</p>	<p>Replace + Lower</p>
<p>Impacts to Aquatic Resources (acres)</p>	0 Acres	179 Acres	177 Acres	167 Acres	174 Acres	178 Acres
<p>Relocations</p>	0 0	48 25	46 27	68 12	49 15	46 26
<p>Impacts to Parks & Recreational Facilities?</p>	None	3 Ralph M. Hendricks Park, Governors Park, Kearns Trail	3 Ralph M. Hendricks Park, Governors Park, Kearns Trail	2 Ralph M. Hendricks Park, Governors Park	3 Ralph M. Hendricks Park, Governors Park, Kearns Trail	3 Ralph M. Hendricks Park, Governors Park, Kearns Trail
<p>Impacts to Threatened & Endangered Species?</p>	No	No	No	No	No	No



Bike & Pedestrian Access

All reasonable alternatives, except the No Build, include a 14 ft. shared-use path along the river crossings to provide access for bicycles and pedestrians. The shared-use path along these river crossings would connect with planned and existing facilities and support regional multi-modal goals.



Costs

Cost is not a determining factor at this stage. However, variables influencing costs include whether or not a bridge would be replaced, the right-of-way needed, having to move any utilities, and any costs associated with mitigating impacts to the environment or communities.

To see the reasonable alternatives, visit our website at www.526LowcountryCorridor.com/eastvpim2021

How do the reasonable alternatives improve Travel Time Reliability?

Since all reasonable alternatives have the same lane configurations, they would provide similar improvements.



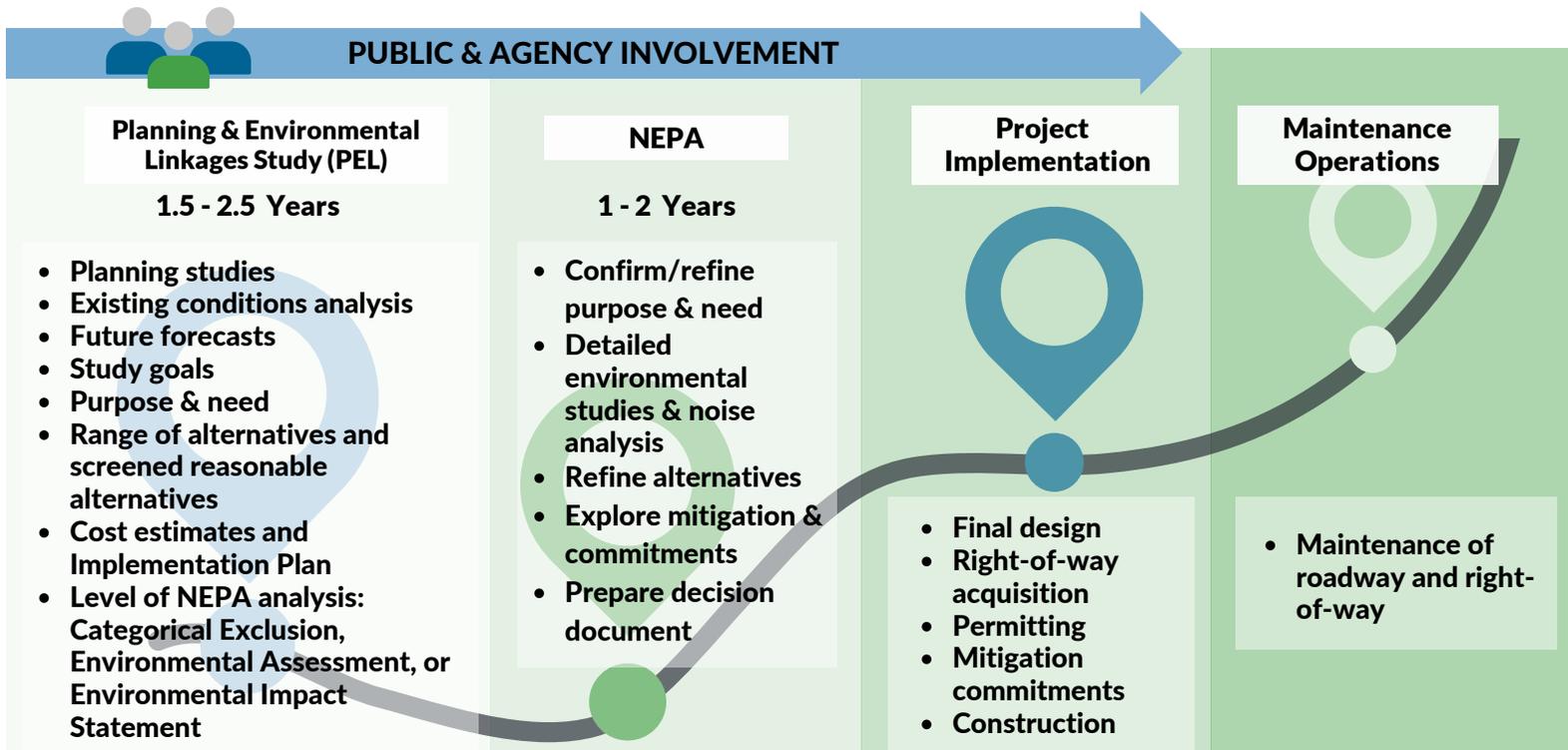
In 2050 ...

✓ The Travel Time Index indicates it would take less time to drive from North Charleston to Mount Pleasant (and the reverse) if any of the reasonable alternatives were constructed.

✓ Headed eastbound, it would take **49 minutes** to drive the corridor if no improvements were made vs. **17 minutes** if any of the reasonable alternatives were constructed. Similarly, it would take approximately **58 minutes** to drive the corridor to North Charleston if no improvements were made and only **21 minutes** with the proposed improvements.

What happens next?

The PEL study provides SCDOT leadership the estimated project costs to help better plan the schedule for future improvements. Schedules for construction would be established in the next phase, NEPA, and would be based on the priorities, estimated costs, available funding, and design details. A detailed noise analysis would also be completed during this phase when designs are more refined and would allow for a more accurate analysis.



How to Participate

Project Website

526LowcountryCorridor.com/eastvpim2021
Live, October 11, 2021

The Public Information Meeting webpage contains all the materials you would see at an in-person meeting.

A mailed public information meeting packet may be requested by calling 843.258.1135 or emailing info@526LowcountryCorridor.com.

How to Comment

Meaningful input is our number one priority. Below are the ways to make your voice heard in the official project records.

Project Website

526LowcountryCorridor.com

Fill out a comment form on the project website.

Project Hotline

843.258.1135 (Call Us)

Press "2" to leave a verbal comment. Comments will be limited to 2 minutes.

In-Person Public Meetings

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Spanish translation services available at all meetings.

**Official Comment Period
October 11 - December 1, 2021**

All formal comments received during the comment period will be evaluated and included in the project record. Please note, only written comments will receive a formal response. All information provided will be published and subject to disclosure under the Freedom of Information Act.

We want to hear from you!



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