



# CONNECT:

## Philadelphia's Strategic Transportation Plan

Progress Update  
October 2021



City of  
Philadelphia

# FOREWORD

## Mayor Jim Kenney

In 2018, I committed my administration to work towards a future where our transportation system benefits everyone. CONNECT was guided by a commitment to equity and oriented our work in transportation around addressing systemic disparities in safety, opportunity and access, sustainability, and health.

The last three years have had many successes and many challenges. The COVID-19 pandemic and economic recession created one of the most challenging years ever in City government. While many of our initiatives have been delayed or reshaped by the pandemic, we're proud that we're still moving forward on all of the major goals that we set out in the CONNECT Plan in 2018.

The pandemic affected every aspect of our lives, including how we get around. While many Philadelphians stayed home for months to slow the spread of the virus, many others still traveled every day to meet the essential needs of our society. Traffic fatalities soared in 2020. The patterns and nature of our travel has changed. The threats of global climate change are even closer than before. We must waste no time in advancing the goals of this plan if we are to meet the challenges we face in the twenty-first century.

In 2018, the promise of more federal funding was uncertain at best. Now, our federal partners are working towards a generational investment in infrastructure. This is a significant opportunity, but one that brings its own set of challenges. We must work diligently to ensure that we choose the right projects, address bottlenecks to make sure projects are delivered, and ensure that the jobs and wealth resulting from City contracts build wealth for Philadelphia residents, especially in minority communities.

The quality of our streets remains one of the most frequent concerns I hear from residents. For Fiscal Year 2022, my administration made a historic \$100 million investment in paving and ADA ramp building. However, unfunded federal mandates have drastically increased the cost of delivering paving projects, and more focus and innovation will be required over the coming years to meet our goal for well-maintained streets.

Equitable, safe, sustainable transportation projects that enhance opportunity and healthy living will be crucial to ensuring that all Philadelphia residents benefit from the next chapter in Philadelphia's story. Over the remaining 2 years of my administration we will be continuing to deliver on the goals and strategies we set out in CONNECT.







# What is this Document?

In October of 2018 the City of Philadelphia through the Office of Transportation, Infrastructure, and Sustainability released CONNECT: Philadelphia's Strategic Transportation Plan. CONNECT set the values, goals, strategies, and deliverables to guide transportation decisions for the period 2018-2025. This report measures our progress towards delivering on these goals. It points to areas of success, but also to where government has struggled to deliver. It also assesses deliverables from the 2018 plan that are no longer relevant, and some new areas that weren't on the original plan.





# How to Read this Document

The section for each CONNECT goal area features one success and one challenge. Then each of the deliverables are assessed based on the rubric below. The 2020 deliverables are graded based on completion at the time this document was published. The 2025 deliverables are graded based on the risk of non-completion. Some deliverables have been determined to be obsolete.

## 2020 Deliverables

-  Complete
-  Delayed
-  Stalled
-  Obsolete

## 2025 Deliverables

-  Low Risk
-  Moderate Risk
-  High Risk
-  Obsolete



# CONNECT Summary

CONNECT is the City of Philadelphia's Strategic Transportation Plan for the years 2018 through 2025. CONNECT is informed by insights from data analysis and civic engagement that highlight the transportation opportunities and challenges that Philadelphia faces.

## Our Vision

**A transportation system that benefits everyone.** It is a system that is safe, affordable, accessible, and reliable at moving Philadelphians, visitors, and commerce so neighborhoods thrive, people are healthy, and the economy grows.

## Our Values

Our transportation system should focus on results that benefit all Philadelphians - regardless of race, income, or ability. **Transportation equity** means investing in transportation infrastructure and access to ensure that all people can affordably connect to opportunities, including education and employment, and have the ability to fully participate in their communities and the economy.

**Safety** – Our transportation system should be safe for all users, in all neighborhoods. We value human life and believe that preserving human life should take priority over convenience.

**Opportunity & Access** – Our transportation system should ensure that people and neighborhoods are not isolated from opportunities. Our transportation system should provide this opportunity and access regardless of a person's ability or disability.

**Sustainability** – Our transportation system should uphold the City's commitment to reducing carbon pollution, be resilient to a changing climate, improve local air quality, and manage stormwater runoff. Our transportation system should be financially sustainable to allow us to reach and maintain a state of good repair.

**Health** – Our transportation system should promote healthy lifestyles by making walking and bicycling easier, more convenient, and safer, while reducing air pollution and noise.



Photo Credit: Urban Engineers

## Our Goals

## Our Strategies

### Goal 0 **Vision Zero**

Working towards the goal of zero traffic deaths by 2030

- Engineer Streets for Safety
- Educate Residents and Schools about Traffic Safety
- Enforce Regulations to Deter Dangerous Behaviors
- Evaluate Strategies to Ensure Results

### Goal 1 **Transit First**

Moving people equitably, affordably, and reliably around a growing city

- Transform Bus Service
- Develop a City Transit Plan
- Modernize the Trolley Fleet
- Expand Indego Bike Share
- Stabilize and Grow Regional Transit Funding

### Goal 2 **Great Streets**

Investing in well-maintained streets to serve people using all modes of transportation

- Achieve a State of Good Repair
- Ensure a Walkable City
- Create Neighborhood Slow Zones
- Develop a High Quality Bicycle Network

### Goal 3 **A Competitive City**

Supporting communities and commerce with a reliable and efficient transportation system

- Manage Congestion
- Manage the Curbside and Parking
- Update the Truck Network
- Pursue Sustainability for Competitiveness

### Goal 4 **Efficient Government**

Delivering transportation services and projects efficiently and transparently for residents

- Engage Communities and Build Coalitions
- Streamline Project Delivery and Prioritization
- Modernize Asset Management
- Innovate with Technology
- Plan for a Clean Fleet

# CONNECT Progress Update

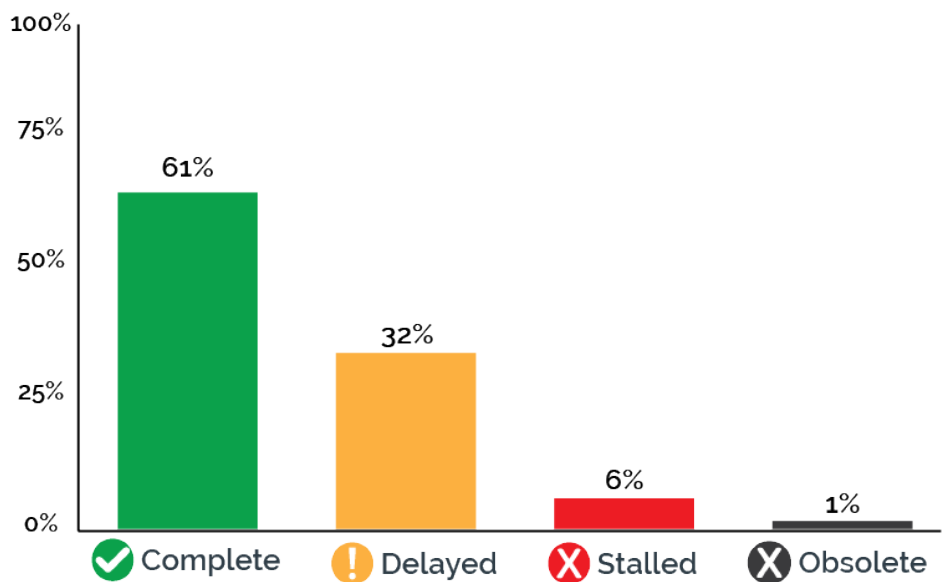
## Overview:

The CONNECT plan set out 129 distinct deliverables. These were grouped into 2020 and 2025 buckets, based on approximated year of completion. With the disruptions caused by the pandemic in 2020, we have taken to assessing 2020 deliverables as of the publishing of this update in October 2021.

Overall, we have or are on track to deliver the majority of the deliverables set out in the CONNECT Plan, though in the pages that follow we break down key areas of focus to ensure we meet our goals going forward.

- 1.** We've delivered on the majority of the 2020 deliverables the CONNECT Plan set. Some of these are delayed; in many cases this is due disruptions caused by the COVID-19 pandemic.

CONNECT 2020 Deliverables by Status

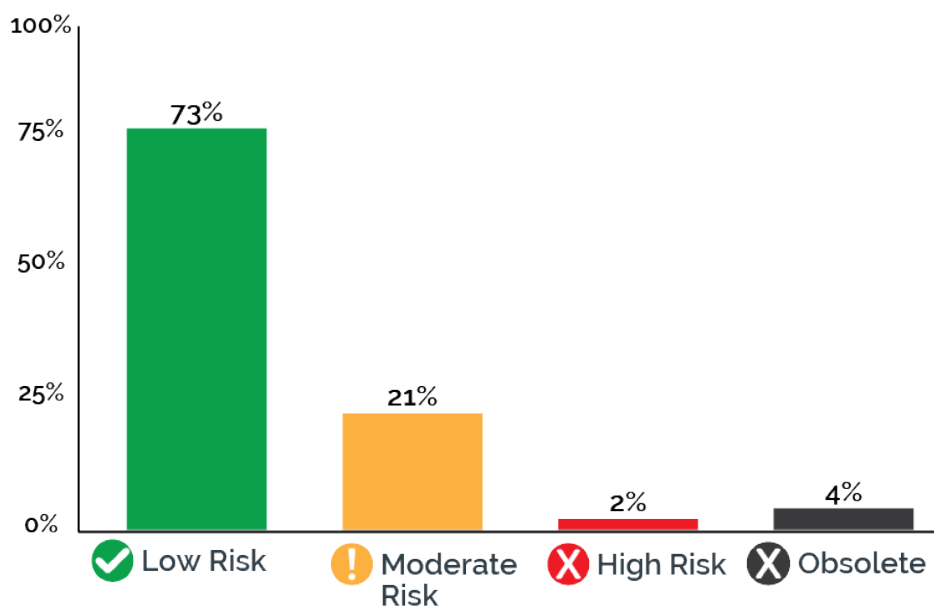






- 2.** We're on track to deliver the majority of the 2025 deliverables the CONNECT Plan set. However, it is clear that we have significant work ahead to keep these on track and deliver on items that are currently delayed or stalled.

### CONNECT 2025 Deliverables by Status



# Vision Zero

## Goal 0

2020 was a terrible year for traffic fatalities in Philadelphia. 156 people were killed in crashes on our streets, an 82% increase over the previous five year average. Major safety construction projects can take years to plan, design, and construct. We are just now seeing the effects of the first of these Vision Zero projects. Since publishing CONNECT, our Vision Zero program has completed a variety of capital projects, published a new action plan and capital plan, made significant progress in implementing a Safe Routes to Schools program, and accomplished most of the other 2020 deliverables set out in CONNECT.

**Future focus:** We are not on track to achieve the goal of Vision Zero by 2030. We will redouble our efforts to implement a Safe Systems approach for traffic safety and will leverage anticipated Federal funding to deliver more Vision Zero projects.

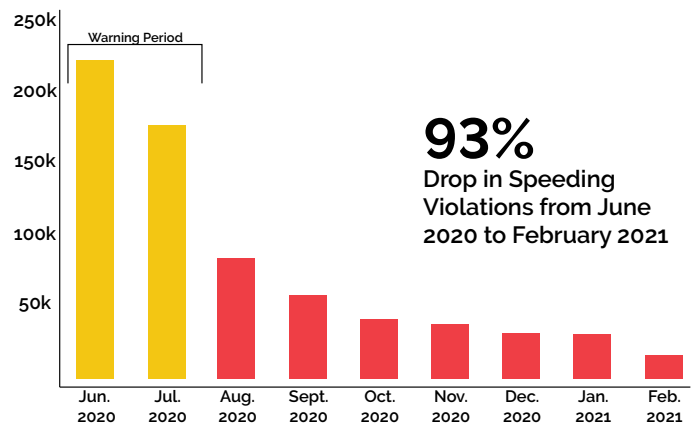
### Successes

#### Roosevelt Boulevard Speed Cameras

Roosevelt Boulevard Speed Cameras were installed in summer of 2020. Since that time, there has been a 93% drop in speeding violations. Revenue generated from speeding tickets will be reinvested in traffic safety on and near Roosevelt Boulevard.

#### Speeding on Roosevelt Boulevard Dropped Significantly After Implementation of Speed Cameras

Speeding Violations Issued per Month by Automated Enforcement System

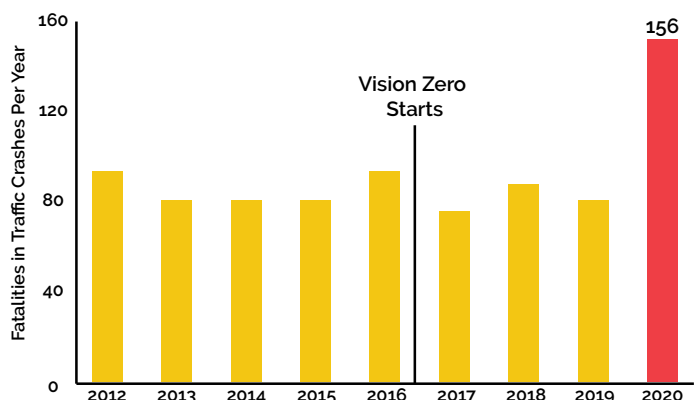


### Challenges

#### Increase in Traffic Fatalities

While no single factor can definitively account for the significant increase in fatal crashes in 2020, decreased congestion caused an increase in speeding, reckless driving, and fatalities. The unprecedented number of lives lost to traffic deaths in 2020 makes clear that significant work lies ahead to reduce and eliminate traffic fatalities.

#### Fatalities in Philadelphia Rose Significantly in 2020





# Vision Zero Strategies and Deliverables

## Engineer Streets for Safety

### Deliver By End of 2020

- ✓ Finish construction and delivery of American Street TIGER project
- ✓ Install protected, high quality bike lanes at priority locations
- ✓ Collaborate with PennDOT on revisions to design manuals to include safety best practices

### Deliver By End of 2025

- ↑ Convert all of Philadelphia's streetlights to LEDs to increase visibility



Integrate safety improvements into over \$150 million in infrastructure projects over the next seven years, including in these example projects:

- North Broad Medians Safety Project
- Improvements at the intersection of 20th, Penrose, Moyamensing, and Packer
- Summerdale, Adams, and Roosevelt Boulevard safety improvements
- Washington Avenue, Grays Ferry to Delaware, Complete Streets improvements
- Improve safety through all paving and line striping work

## Educate Residents and Schools about Traffic Safety

### Deliver By End of 2020

- ✓ Expand "We Meet in the Street", the Vision Zero public awareness campaign
- ✓ Develop a toolkit of curriculum and resources for educators and community members to implement at their schools
- ! Partner with cohorts of 20 schools annually to provide support for Safe Routes Philly, establishing and evaluating the program in School District of Philadelphia neighborhood schools
- ! Develop a city-wide Walk to School Day program
- ✓ Host Vision Zero Safety Zone at Philly Free Streets programs

### Deliver By End of 2025



Establish a stable funding source for Safe Routes Philly



Evaluate and make physical safety improvements to infrastructure near high need schools, particularly within the HIN



Develop a standardized parent engagement strategy



Improve robustness and effectiveness of crossing guard system

## Enforce Regulations to Deter Dangerous Behaviors

### Deliver By End of 2020

- ! Expand use of Automatic Red Light Enforcement cameras at intersections identified through data driven analysis
- ✓ Install speed enforcement cameras on Roosevelt Boulevard, the city's most dangerous road
- ✗ Work with partners to continue to implement "Safety Six" traffic safety enforcement campaign
- ! Host Vision Zero workshops for Philadelphia Police Department captains

### Deliver By End of 2025



Secure enabling legislation from the Commonwealth to allow speed cameras near schools



Gain legislative approval from the Commonwealth to permit local police officers to use radar for speed enforcement



[NEW] Work with Commonwealth to establish permanent Camera Automated Speed Camera program beyond the 5-year pilot period established previously

## Evaluate Strategies to Ensure Results

### Deliver By End of 2020

- ✓ Fully roll out electronic crash reporting in police districts via TRACS
- ✓ Input Vision Zero projects into public-facing GIS layer
- ✓ Develop new 3-year Vision Zero Action plan for 2020-2022 with reevaluated high injury network
- ✓ Conduct before-and-after evaluations of safety improvement projects and programs

### Deliver By End of 2025



Work with PennDOT and other partners on revising procedures to collect the data necessary to complete a Vision Zero racial equity analysis



Engage in research that advances traffic safety policies and practices, working with University partners



Develop new 3-year Vision Zero Action plan for 2023-2025 with reevaluated HIN



# Transit First Goal 1

2020 was the most difficult year ever for transit in Philadelphia and worldwide. But the nature of cities like Philadelphia means we need transit for a livable, equitable, and sustainable city. The Philadelphia Transit Plan charts the course to get there.

**Future focus:** We will implement the projects, programs, and policies laid out in the Philadelphia Transit Plan, including prioritizing buses on key city streets, partnering with SEPTA on a bus network redesign, reimagining Regional Rail, and delivering the trolley modernization program.

## Successes

### The Philadelphia Transit Plan

In 2021, the City released the first comprehensive transit plan for Philadelphia in 100 years. This plan features a range of policies and projects that the City will work with SEPTA and other partners to advance in coming years, including a slate of bus priority projects and a vision for the future of Regional Rail. The new pilot bus lanes on Market Street and JFK Boulevard, the first in Philadelphia in decades, are a step towards this vision.



## Challenges

### Trolley Modernization







Trolley modernization is the City's top priority for large transit infrastructure spending. While some progress has been made, the project is still 10+ years away from completion. Funding remains the primary obstacle to seeing the program come to fruition. We will work with SEPTA, the Commonwealth, and the Federal government to get Trolley Modernization on track and deliver this generational investment in one of Philadelphia's most important transit assets.



# Transit First Strategies and Deliverables

## Transform Bus Service

### Deliver By End of 2020


-  Revise and re-issue the Transit First executive order
-  Partner with SEPTA on planning a network-wide Comprehensive Bus Network Redesign
-  Improve operations and enforcement on current dedicated bus facilities – Chestnut Street and Market Street
-  Partner with PennDOT and SEPTA to implement dedicated bus facilities along Roosevelt Boulevard
-  Pilot real-time bus arrival information displays
-  Continue to install and upgrade bus shelters and other street furniture

### Deliver By End of 2025


-  Work with SEPTA, residents, and other partners to implement an improved bus network
-  Implement transit priority improvements on five high-priority corridors
-  Work with SEPTA and other partners to secure enabling legislation from the Commonwealth to allow automated enforcement of bus lanes
-  Work with SEPTA to provide real-time bus arrival information displays at high ridership rail and bus stations and stops
-  Complete installation of 600+ City-owned bus shelters

## Develop a City Transit Plan

### Deliver By End of 2020



-  Produce a City of Philadelphia Transit Plan for efficiently and affordably moving people in a growing city and region, including a plan of capital improvements

### Deliver By End of 2025


-  Implement priority treatments and other measures to support the transformation and improvement of transit as detailed in the City Transit Plan

## Modernize the Trolley Fleet

### Deliver By End of 2020






-  Develop and implement operational plans to improve current trolley service, especially during planned outages
-  Engage with SEPTA and communities on streetscape changes to accompany the new trolley fleet

### Deliver By End of 2025





-  Work with SEPTA to begin construction of revamped trolley lines, including new vehicles, extensive streetscape improvements, and trolley infrastructure upgrades

## Expand the Indego Bike Sharing System

### Deliver By End of 2020

-  Release new business plan for Indego
-  Launch Indego 2.0. Follow-up on new business plan by re-bidding the contract for bike share equipment and operations
-  Expand the Indego service to three new neighborhoods while maintaining a focus on reliability and equity
-  Test new equipment to expand Indego offerings and service area
-  Release regulations for a dockless bike share pilot program

### Deliver By End of 2025

-  Expand the service area to eight additional neighborhoods
-  Improve connectivity between Indego and SEPTA, PATCO, and other transit operators
-  Establish a state of good repair/capital replacement fund through improved financial performance
-  Develop an end-of-life-cycle plan for existing equipment

## Stabilize and Grow Regional Transit Funding

### Deliver By End of 2020

-  Collaborate on a regional plan for transit funding with the Commonwealth, SEPTA, neighboring counties, and other partners



# Great Streets

## Goal 2

Since publishing CONNECT in 2018, we've made significant progress in building out a network of protected bike lanes and creating a new Neighborhood Slow Zones program. However, we are behind on our state of good repair and new protected bike lane mileage goals and will need to leverage all aspects of project delivery, including funding at all levels, over the next 4 years to catch up.

**Future focus:** We will pursue federal infrastructure funds with vigor to deliver on the many projects in our pipeline.

### Successes

#### American Street



The American Street Project delivered a complete streets transformation to a High Injury Network street. The project has green stormwater infrastructure and Philadelphia's first raised bike lanes.

### Challenges

#### High Quality Bike Network




CONNECT sets the goal to deliver 40 miles of protected bike lanes by 2025. Projects like Parkside Avenue, 22nd Street, and Market Street have provided new spaces to cycle for people of all ages and abilities. As of October 2021, we have delivered 19.4 protected bike lane miles. While there are many additional miles of lanes in the pipeline, it will take significant effort and support to deliver 40 miles by 2025.






# Great Streets Strategies and Deliverables

## Achieve a State of Good Repair

### Deliver By End of 2020




-  Increase annual paving from 56 (2017) to 110 miles of streets and produce a publicly accessible three-year paving plan
-  Investigate costs, benefits, and challenges of switching to warm-mix asphalt
-  Hire a Vision Zero maintenance crew

### Deliver By End of 2025


-  Increase paving to 131 miles annually and reduce the 1,000 miles of paving backlog
-  Repair or replace critical bridges that are identified by the Streets Department as being in poor condition
-  Upgrade and connect signal systems to Traffic Operations Center


## Ensure a Walkable City

### Deliver By End of 2020

-  Conduct a study to identify best practices in peer cities for sidewalk repair and enforcement programs
-  Install at least two new raised intersections or crosswalks
-  Install leading Pedestrian Intervals (LPIs) at 50 intersections per year and pedestrian countdown timers at 13 intersections per year



### Deliver By End of 2025

-  Conceive of and implement a functioning sidewalk repair and maintenance strategy that enables sidewalk repair on both private and public property while filling high-priority sidewalk gaps



-  Implement a public space stewardship program
-  Implement an improved inspection and enforcement strategy to minimize sidewalk and bike lane closures due to construction projects, especially on the High Injury Network
-  Pilot protected intersections
-  Extend intersections improvements on South Broad Street from City Hall to Washington Avenue
-  Continue working with PennDOT to incorporate elements of a great street as the I-95 reconstruction process continues

## Create Neighborhood Slow Zones

### Deliver By End of 2020


-  Publish application and selection criteria and work with community groups on applications
-  Select two neighborhoods to pilot Slow Zones based on traffic crash data and work with them to plan and implement slow zones safety improvements

### Deliver By End of 2025



-  Evaluate effectiveness of initial two slow zones
-  Work with additional neighborhoods to implement Slow Zones

## Develop a High Quality Bicycle Network

### Deliver By End of 2020

-  Implement High Quality Bicycle Network Priority Facilities on:
  - JFK Boulevard (15th to 20th Streets)
  - Market Street (15th to 30th Streets)
  - Race Street (8th to 6th)
  - Torresdale Avenue (over Pennypack Creek)
  - Parkside Avenue (Girard to Bryn Mawr Avenues)

### Deliver By End of 2025

-  Work with City Council and communities to finish building the 40 mile network of protected bike lanes, including, but not limited to, these specific projects:
  - Spring Garden Street (Delaware Avenue to Eakins Oval)
  - Washington Avenue (Grays Ferry to Delaware Avenues)
-  Work with partners to complete key sections of major trails, including the Schuylkill, Delaware, and sections of the East Coast Greenway



# A Competitive City

## Goal 3

The pandemic has shifted the way cities around the world think about their streets. Streets are the backbone of our economy - it is where goods are moved and sold and how people access jobs and opportunity. Outdoor dining is another of many functions we're asking of our streets.

**Future focus:** We will be working to balance new and old priorities in a post-pandemic world to ensure a more competitive, sustainable, and equitable Philadelphia.

### Successes

#### Outdoor Dining Program

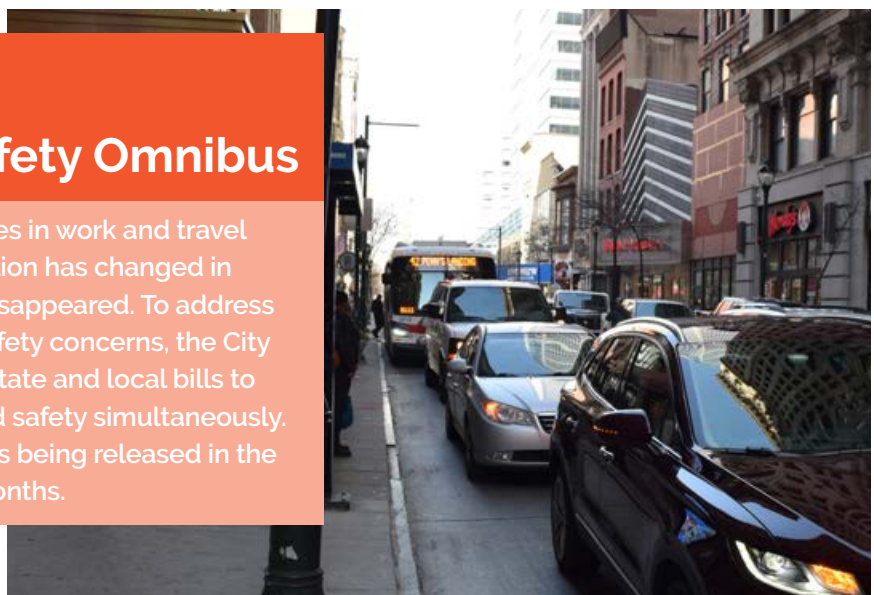


In response to the COVID-19 pandemic, the City of Philadelphia moved quickly to permit outdoor dining. In the matter of months, more than 750 restaurants benefited from the program, helping to save thousands of jobs and businesses during the economic crisis. Moving forward, we will be working with restaurants, City Council, and other stakeholders to develop standards for the future of outdoor dining.

### Challenges

#### Congestion and Safety Omnibus

Pandemic-related changes in work and travel patterns means congestion has changed in Philadelphia, but it hasn't disappeared. To address ongoing congestion and safety concerns, the City developed a package of State and local bills to address both congestion and safety simultaneously. This package of legislation is being released in the coming months.










# A Competitive City Strategies and Deliverables

## Manage Congestion

### Deliver By End of 2020


-  Streamline real time monitoring and response to incidents and traffic “hot-spots” working with PPA, SEPTA, and PennDOT
-  Develop a data and technology roadmap to consolidate data resources

### Deliver By End of 2025




-  Produce a Central Philadelphia Transportation Analysis Program focused on ensuring the reliability, effectiveness, and state of good repair of the multiple transportation networks in Central Philadelphia
-  Establish sustainable, dedicated funding to support capital improvements, maintenance, and operations as identified in the Central Philadelphia Transportation Analysis Program
-  [NEW] Work with state and local legislators to pass the bills in the Safety and Congestion Omnibus Action Plan

## Manage the Curbside and Parking

### Deliver By End of 2020


-  Update fines, fees, and policy for modern circulation and parking patterns
-  Identify potential publicly or privately owned parcels in cooperation with PCPC and other partners for a range of truck parking needs
-  Improve curbside management for deliveries
-  Investigate opportunities and enabling legislation to expand carshare in Philadelphia

### Deliver By End of 2025




-  Working with public and private sector, secure at least one new location for owner-operators to park their trucks overnight
-  Have in place an enforcement strategy with PPD and PPA to direct truck drivers to available parking locations
-  Pilot dynamic pricing on one commercial corridor to manage parking availability

## Update the Truck Network

### Deliver By End of 2020

-  Update the Complete Streets Manual, and other relevant City documents, to incorporate truck network considerations
-  Re-examine streets and interstate access network to support Port deliveries

### Deliver By End of 2025




-  Confirm and inventory the existing truck network and update it as appropriate
-  Develop an improved online presence with truck-related information
-  Roll out an educational campaign about the updated truck network

## Pursue Sustainability for Competitiveness

### Deliver By End of 2020

-  Establish a city-wide climate action plan consistent with the Paris Climate Agreement goals
-  Work with SEPTA and PECO to establish a pathway to further electrification of the transit fleet
-  Increase greened acres from new transportation projects

### Deliver By End of 2025

-  Pilot cool pavement materials in neighborhoods most impacted by extreme heat
-  Integrate citywide Electric Vehicle policy into multimodal strategies to reduce carbon emissions
-  Develop citywide competitive resilience strategy encompassing major infrastructure investment and community assets

# Efficient Government

## Goal 4

Efficient and effective government is about the basic nuts and bolts of service delivery. Streets and OTIS has made significant steps, such as equipping the sanitation and highway maintenance fleet with GPS and sharing data with the public through StreetSmartPHL.

**Future Focus:** Improving our internal project delivery while also ensuring a more diverse supplier base will be a key City goal in the face of expanded Federal funding.

### Successes

#### Clean Fleet Plan

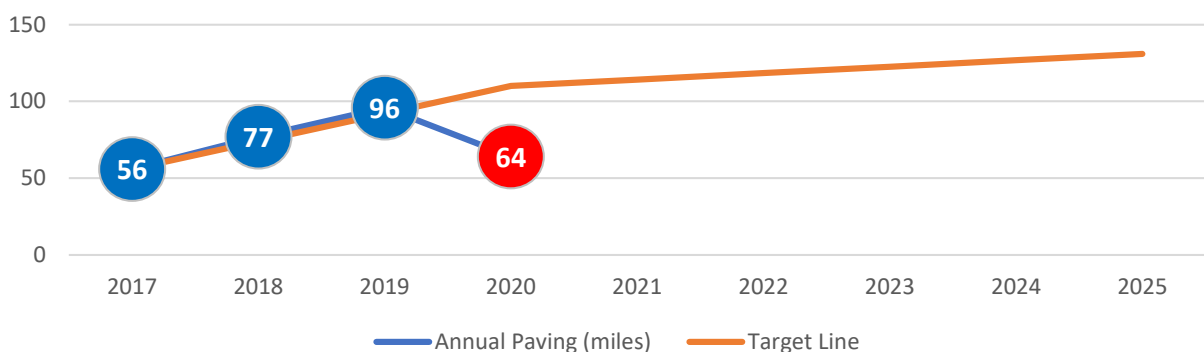
The City of Philadelphia's Municipal Clean Fleet Plan lays out a strategy to transition the City's fleet - which represents around 13% of the municipal government's carbon footprint - to clean and electric vehicles. This transition will allow the City to lead by example in reducing carbon pollution. Additionally, the transition will allow the City to achieve cost savings, to support local job creation, and to enhance Philadelphia's competitiveness among peer cities.



### Challenges

#### Paving

The FY2022 City budget makes the largest ever investment in paving and street maintenance. However, the drastically increasing cost of providing accessible improvements will continue to limit Philadelphia's ability to meet paving goals. For example - paving a street costs about \$400,000/mile, while building required ADA ramp improvements costs \$1,000,000/mile.





# Efficient Government Strategies and Deliverables



## Engage Communities and Build Coalitions

### Deliver By End of 2020

-  Continue to engage community about people-powered transportation through Philly Free Streets
-  Continue to work with Indego Community Ambassadors to connect neighborhoods to government
-  Hire a community outreach staffer to increase outreach to communities about Vision Zero
-  Hold a transportation summit and “ride transit days” to enhance civic dialogue and engagement


-  Work with new and existing Transportation Management Associations to enhance partnerships with businesses
-  Establish an outreach and digital civic engagement strategy for transportation initiatives


### Deliver By End of 2025

-  Hold additional transportation summit(s) to enhance dialogue and engagement
-  Work with partners to hold workshops and other forums on effective transit

## Streamline Project Delivery and Prioritization





### Deliver By End of 2020


-  Streamline a data-driven capital project prioritization process that aligns with the goals of CONNECT
-  Use the prioritization process to inform a list of projects to respond to outside funding opportunities

-  Produce a business plan for the Streets department to guide internal process improvements



## Modernize Asset Management

### Deliver By End of 2020

-  Update sign and parking regulations for Center City with partners
-  Identify new technologies and products to improve service and extend asset life cycles
-  Review and compile data collection policies, standards, and practices in order to improve asset indexes and standards to monitor performances
-  Investigate use of LIDAR to collect asset condition data.




-  Regulate utility work consistent with PennDOT standards on freshly paved streets to reduce degradation and preserve high quality surfaces

### Deliver By End of 2025

-  Develop an asset management manual for the Streets Department to follow and implement
-  Develop and implement plan to integrate asset management systems into maintenance, operational, programming, and planning decisions

## Innovate with Technology

### Deliver By End of 2020

-  Integrate best practices on realtime congestion management into the Central Philadelphia Transportation Analysis Program
-  Update legislative and policy agendas to prioritize solutions that fit contemporary circulation and parking patterns including the role of TNCs
-  Update concept of operations for Traffic Operations Center and citywide signal and traffic sensor integration to achieve more effective real time managements

-  Establish 5G management and support program to leverage use of 5G technologies in the ROW and foster equitable deployment
-  Complete migration of work order management processes to common electronic platforms
-  Deploy GPS across sanitation and highway maintenance fleets and integrate into management of crew routing, crew deployment, snow operations, and public snow information for more efficient deployment of resources and better accountability

## Plan for a Clean Fleet

### Deliver By End of 2020

-  Complete Clean Fleet Plan and begin implementation

### Deliver By End of 2025

-  Fully implement Clean Fleet Plan



