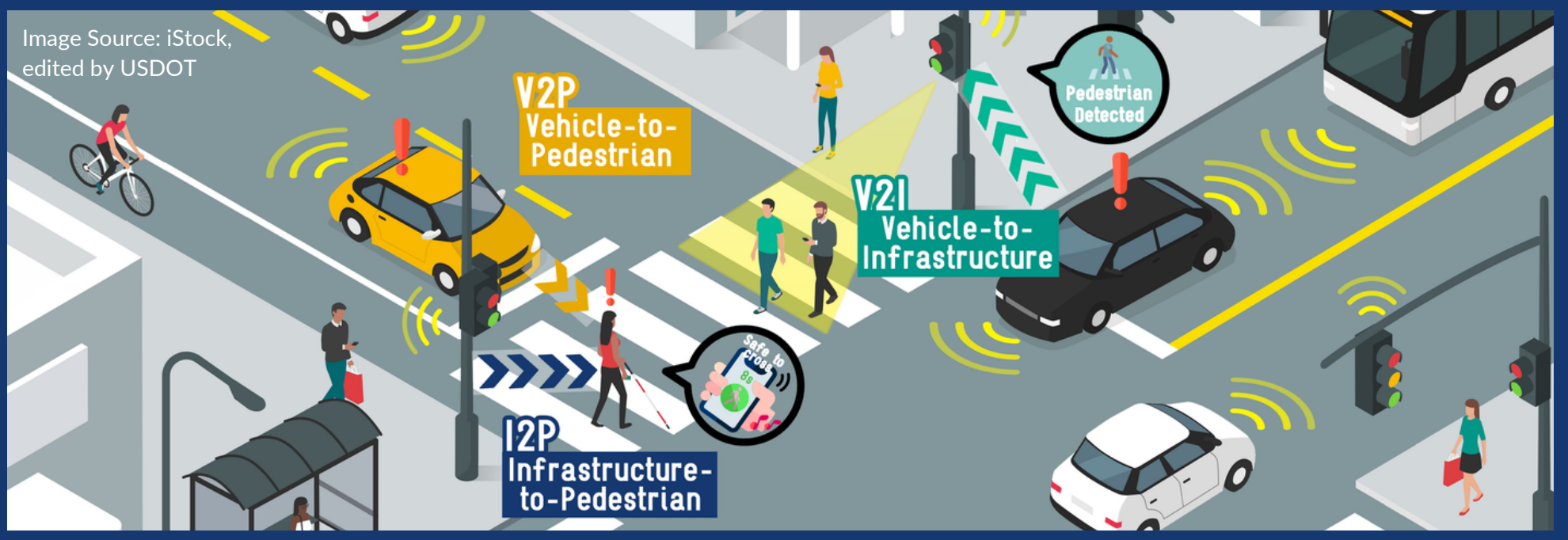
U.S. Department of Transportation

Enhancing Pedestrian Safety with Connected Vehicle Technologies

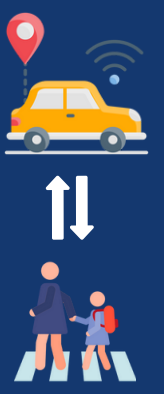
Connecting pedestrians with the surrounding vehicles and infrastructure through Vehicle-to-Pedestrian (V2P), Vehicle-to-Infrastructure (V2I), and Infrastructure-to-Pedestrian (I2P) technologies offers promise for improving pedestrian safety.[1] For more information about these technologies, please refer to this factsheet created by the ITS Joint Program Office.



This document is based on benefits, costs, and lessons learned from past evaluations of ITS projects contained in the ITS Databases at: www.itsknowledgeresources.its.dot.gov. V2I and I2P examples presented in this document encompass 2-way communication (i.e., V2I and I2V; I2P and P2I). Click on each example, below, to learn more.

Benefit **Nationwide** **V2P**

A study using a V2P alert that warns pedestrians when they initiate unsafe crossings found pedestrians who received alerts while using their phones better timed their crossings than those who did not receive warnings.



Benefit **Iowa City, Iowa** **V2P**

Survey results from 66 older pedestrians indicated that 68% of participants who received affirmative street-crossing notifications in a virtual environment test found that the alerts helped them make road-crossing decisions.

Benefit **Gainesville, Florida** **V2I**

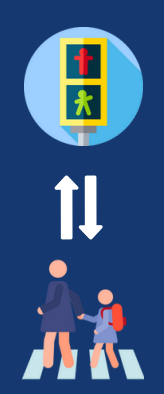
A V2I mobile app that relied on intelligent school zone beacons alerting drivers traveling above the school zone speed limit was estimated to reduce speeding probability up to 35%.

Cost **Gwinnett County, Georgia** **V2I**

The cost to equip dedicated short-range communications at 20 intersections was estimated at $309,000, with applications including Pedestrian Presence Alerts.

Benefit **New York City, New York** I2P

The New York City Connected Vehicle Pilot found that 83% of participants felt safer when using the Mobile Accessible Pedestrian Signal System (PED-SIG) app, which provides navigation assistance for pedestrians with vision disabilities, compared to not using it.



Lesson **Pittsburgh, Pennsylvania** **I2P**

Field test results suggested supplementing I2P apps with stationary Bluetooth beacons to improve location accuracy and corner identification, and therefore help ensure sufficient time is allocated to cross for pedestrians with disabilities.

1. USDOT Vehicle-to-Pedestrian Research White Paper, 2017.

Last modified on July 5, 2022