

COULD ACCESS MANAGEMENT SIGNIFICANTLY REDUCE PEDESTRIAN CRASHES AND FATALITIES?

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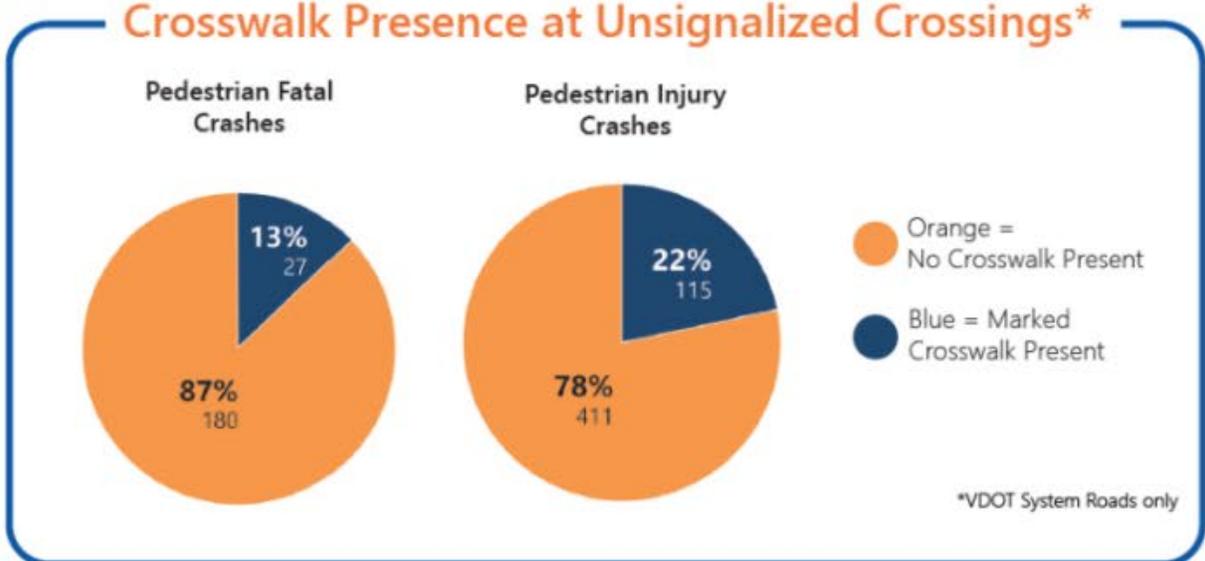
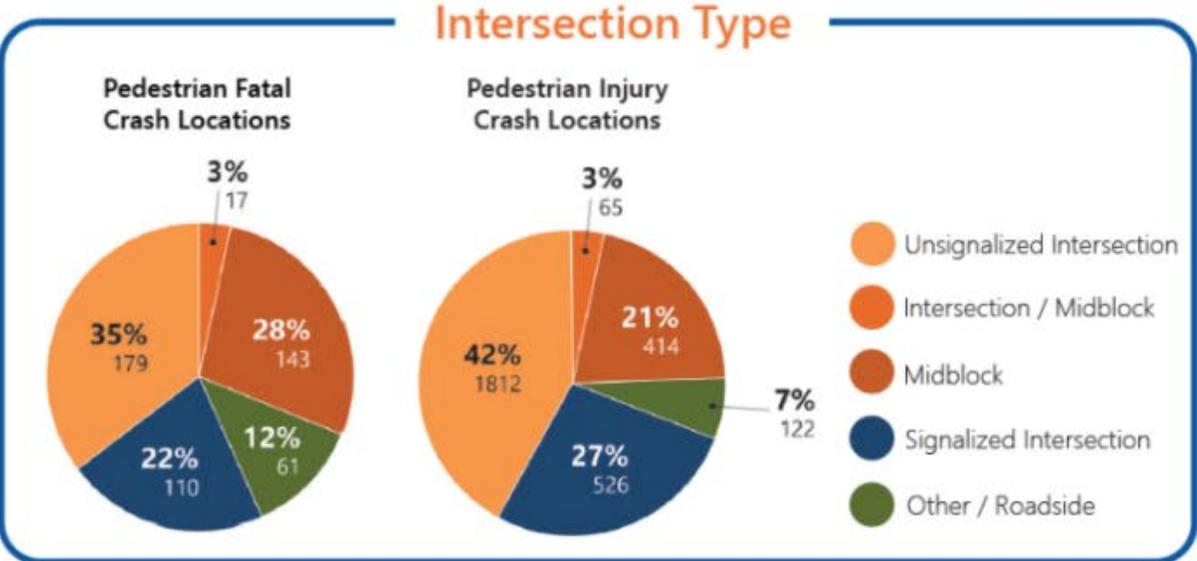
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VASITE CONFERENCE 2022

JUNE 15, 2022

Define the Problem

- Pedestrian Crashes and Fatalities are on an unacceptable rise
 - 6,205 Recorded Pedestrian Fatalities in 2019 (FARS)
 - 4,109 Recorded Pedestrian Fatalities in 2009 (FARS)
 - Over a 50% increase in annual pedestrian fatalities in a one decade
- What causes a Pedestrian Crash?
 - Let's work from the point of a crash and then peel back what got to that point



Conflict Between Vehicle and Pedestrian



Where are they happening?

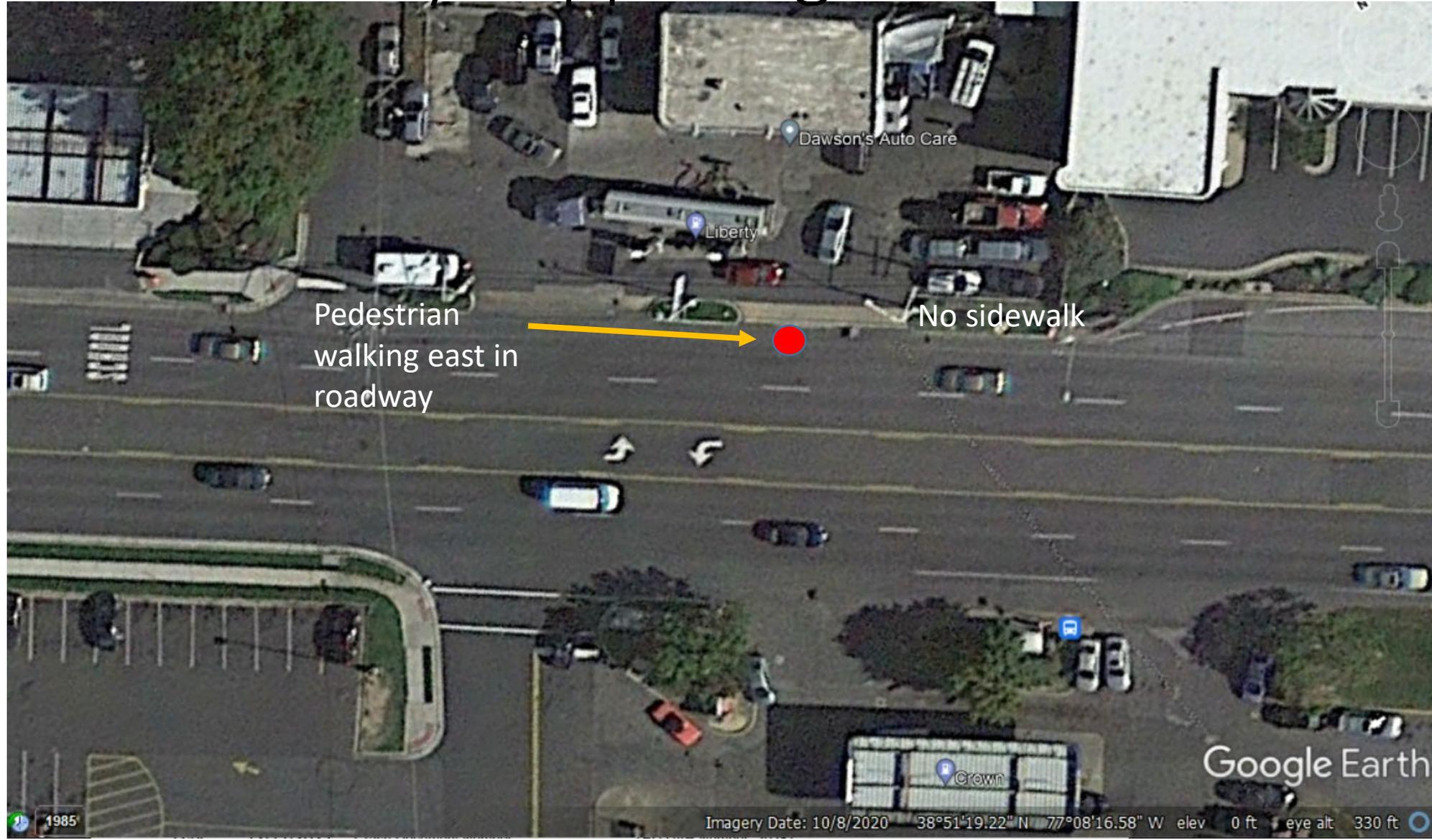
VA 7 – 100
feet east of
Magnolia
Ave

12/12/21

Bailey's
Crossroads,
VA



Where are they happening?

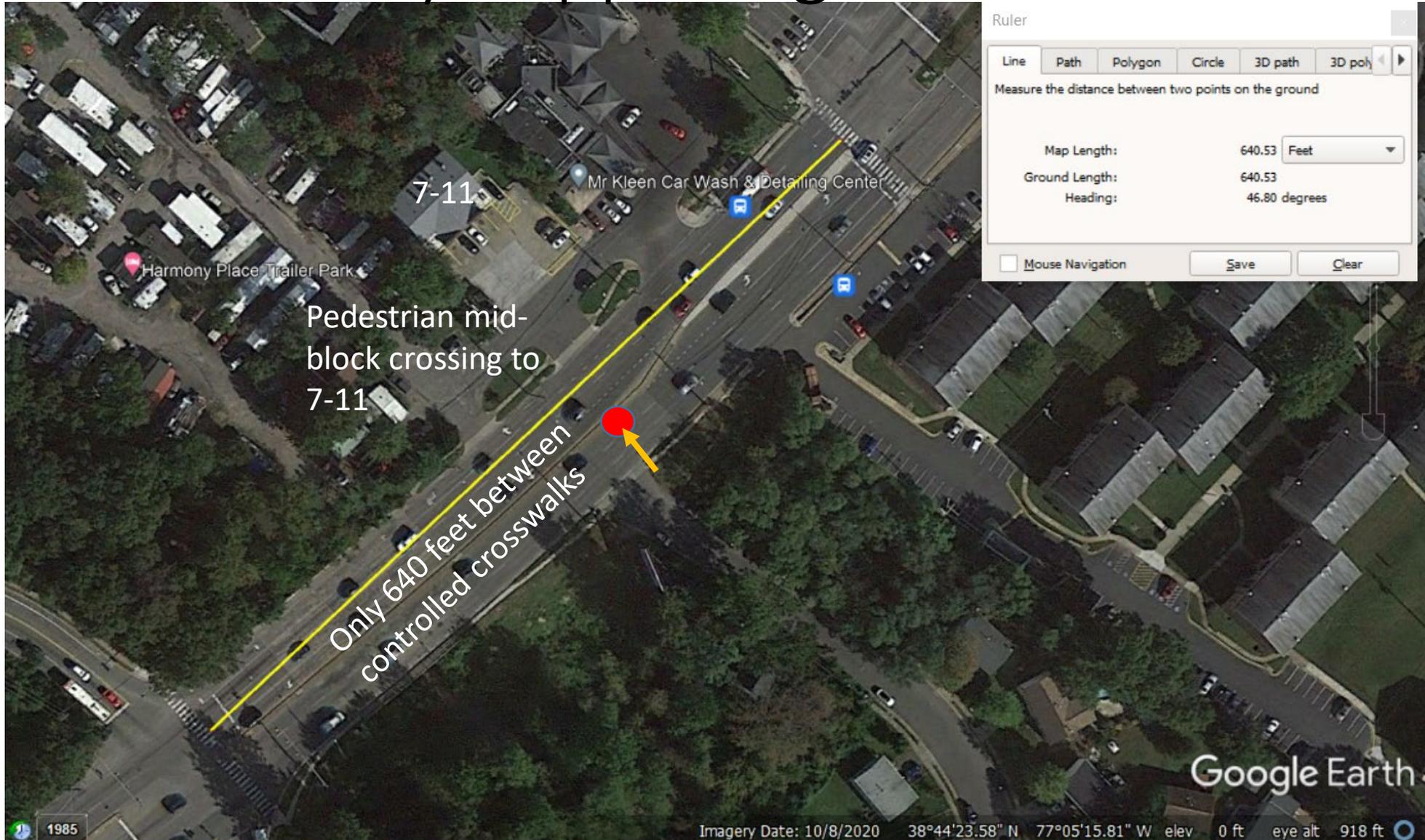


Where are they happening?

US 1 @
Napper
Road

12/9/21

Alexandria,
VA

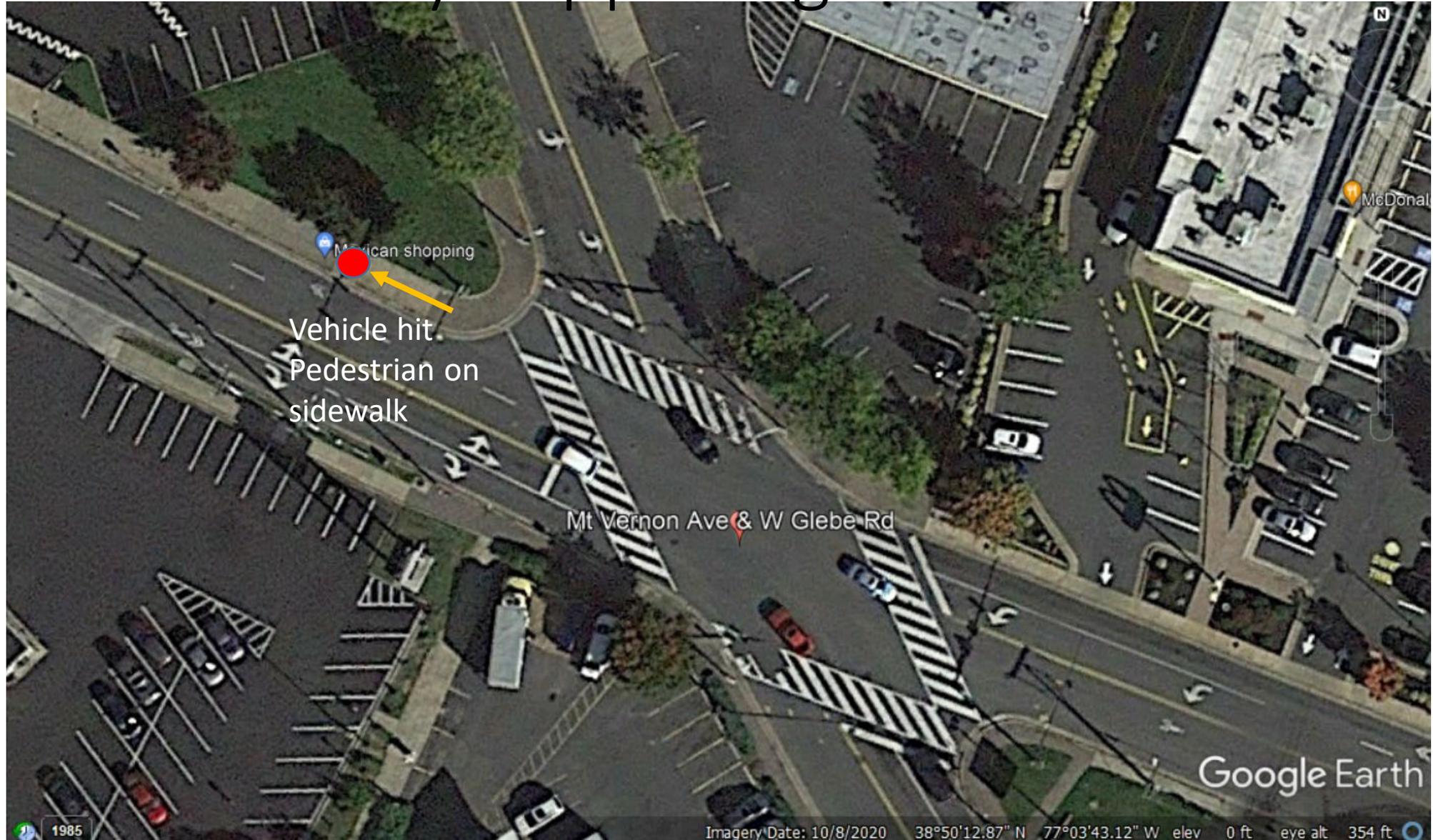


Where are they happening?

W. Glebe
Road @ Mt.
Vernon Ave

11/13/21

Alexandria,
VA

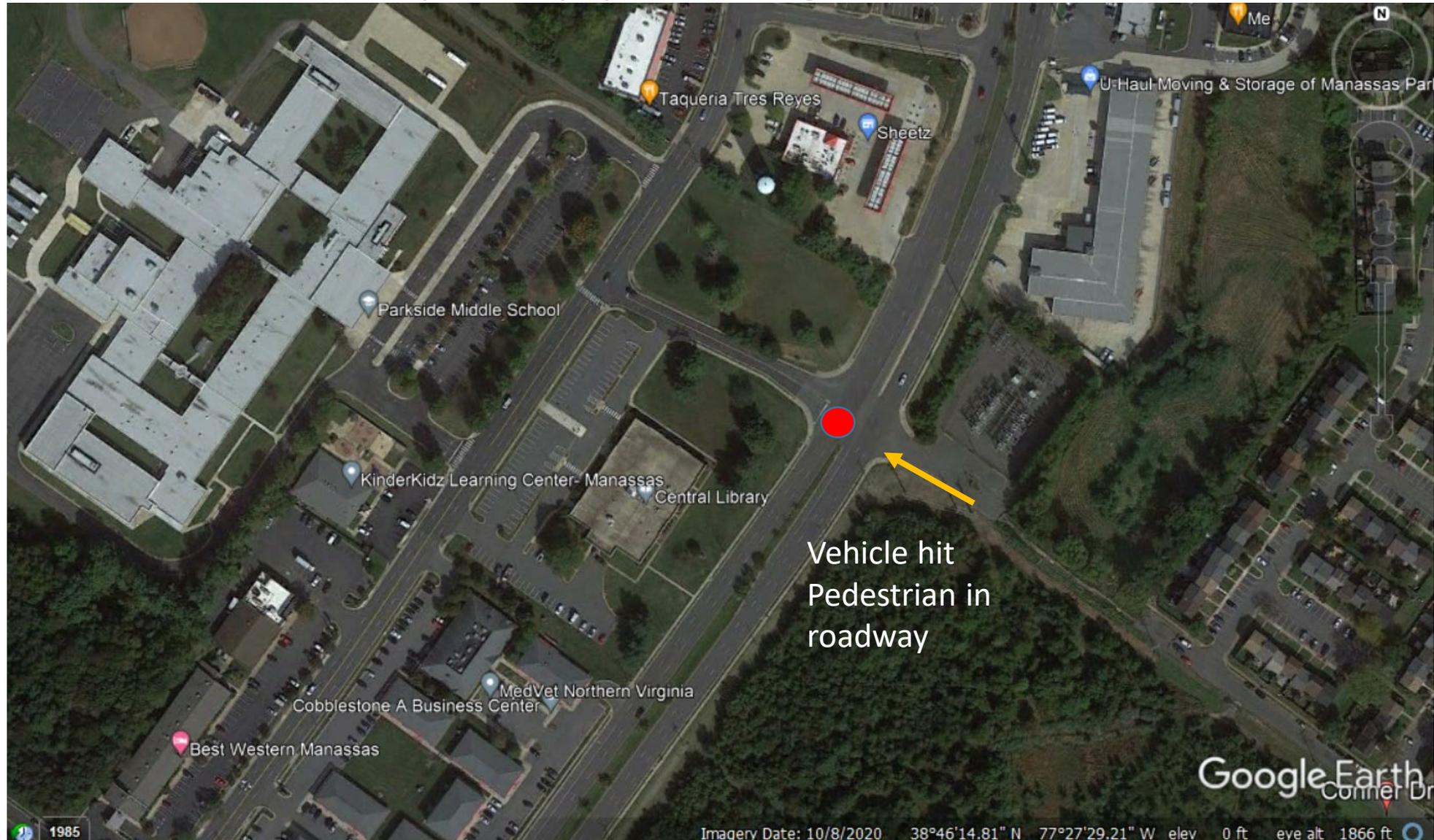


Where are they happening?

VA 28 @
Conner
Drive

11/15/21

Manassas,
VA



Where are they happening?

VA 234
under I-66

9/23/21

Manassas,
VA

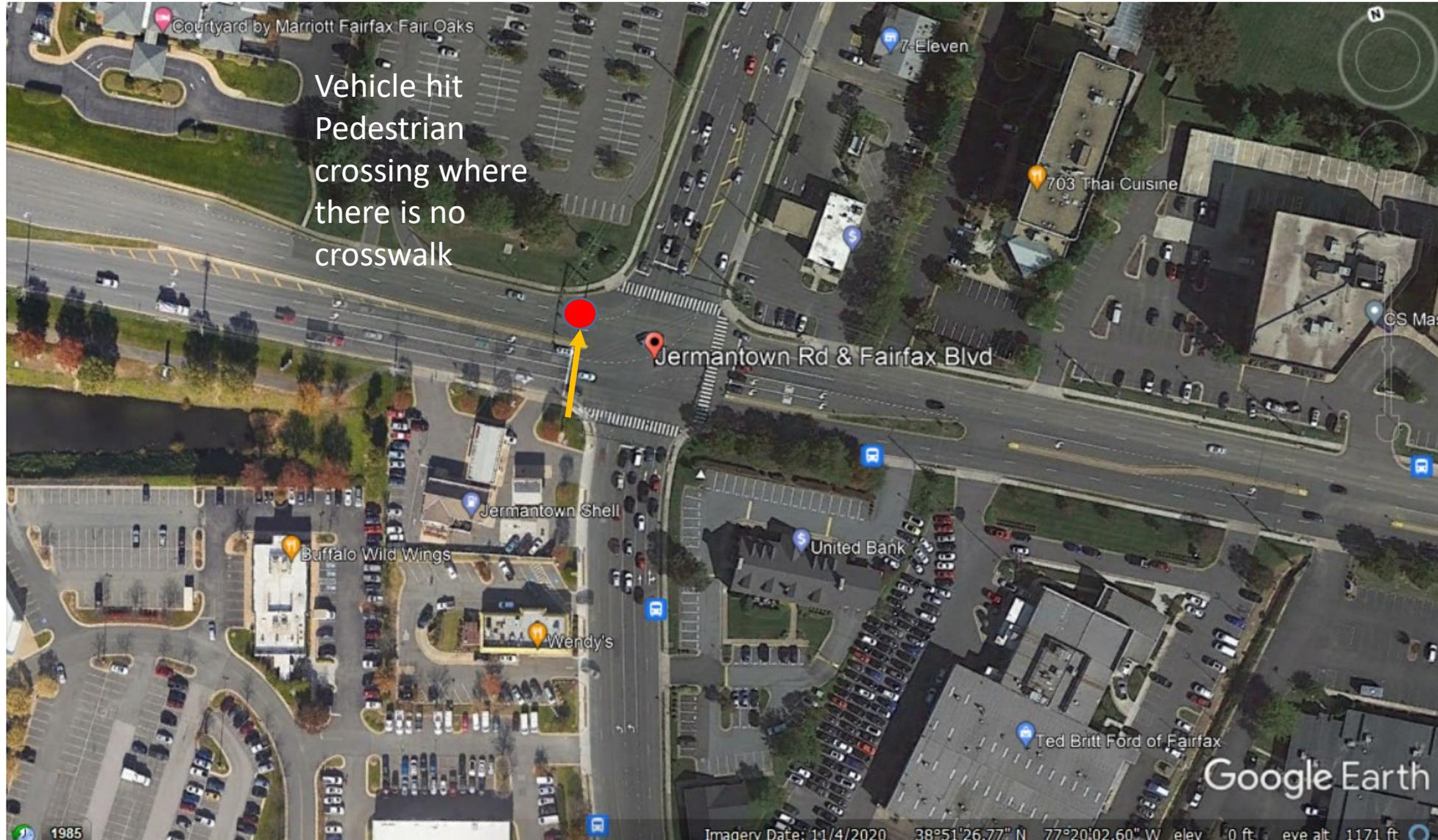


Where are they happening?

US 50 @
Jermantown
Road

11/5/21

Fairfax, VA



How did the pedestrian get to those conflicts?

- The pedestrian was attempting to take the most direct path from their ORIGIN to their DESTINATION
- Each fatality had a PEDESTRIAN ACCESS problem
 - Lack of sidewalk
 - Lack of safe crosswalk
 - Sidewalk too close to roadway
 - Pedestrian had no direct safe route to get from origin to destination
- Are the access problems just at the roadway?
 - NO. They start at the ORIGIN and end at the DESTINATION

Let's Learn from Vehicle Access

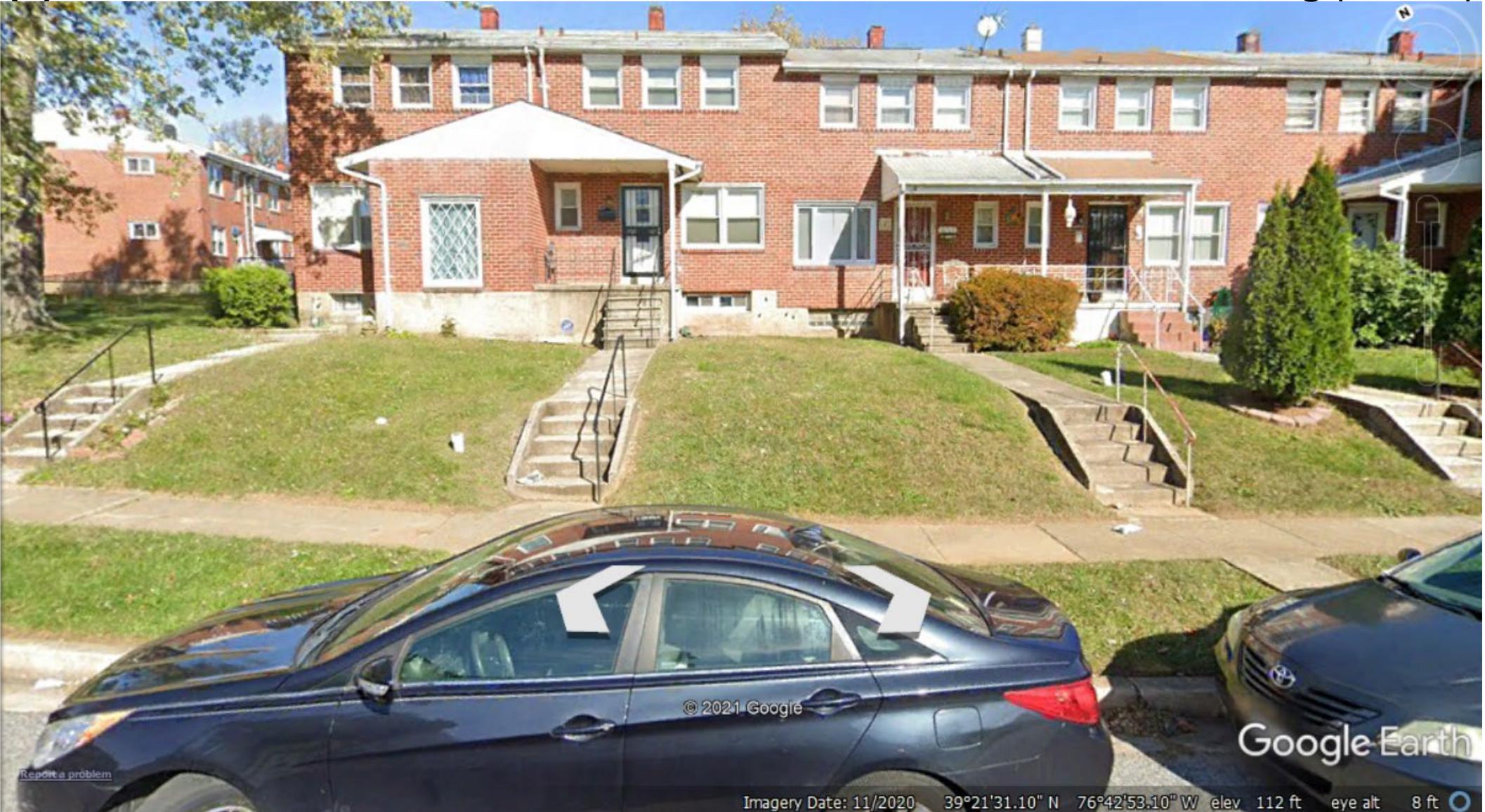
- Vehicles start from a parked position (for a pedestrian to get in)
 - On-street parking
 - Parked in **DRIVEWAY**
 - Driveway with multiple parking spots (ex. Parking Lot, Parking Garage, Wide Driveway)
 - Driveway with one+ parking spot (usually at a residential property)
- Vehicle accesses street and (generally) takes the quickest route possible to get to the destination
- Vehicle finds parking either on a street or by accessing a driveway (for a pedestrian to get out)
- Pedestrian accesses final destination

Let's Learn from Vehicle Access

- ~~Vehicles~~ Pedestrians start from a ~~parked position~~ building (generally)
 - ~~On street parking~~
 - ~~Parked in DRIVEWAY~~ Use a WALKWAY (if available)
 - ~~Driveway with multiple parking spots (ex. Parking Lot, Parking Garage, Wide Driveway)~~
 - ~~Driveway with one+ parking spot (usually at a residential property)~~

Types of WALKWAYS

WALKWAY to On-Street Parking (& S/W)



[Report a problem](#)

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Google Earth

Imagery Date: 11/2020 39°21'31.10" N 76°42'53.10" W elev 112 ft eye alt 8 ft

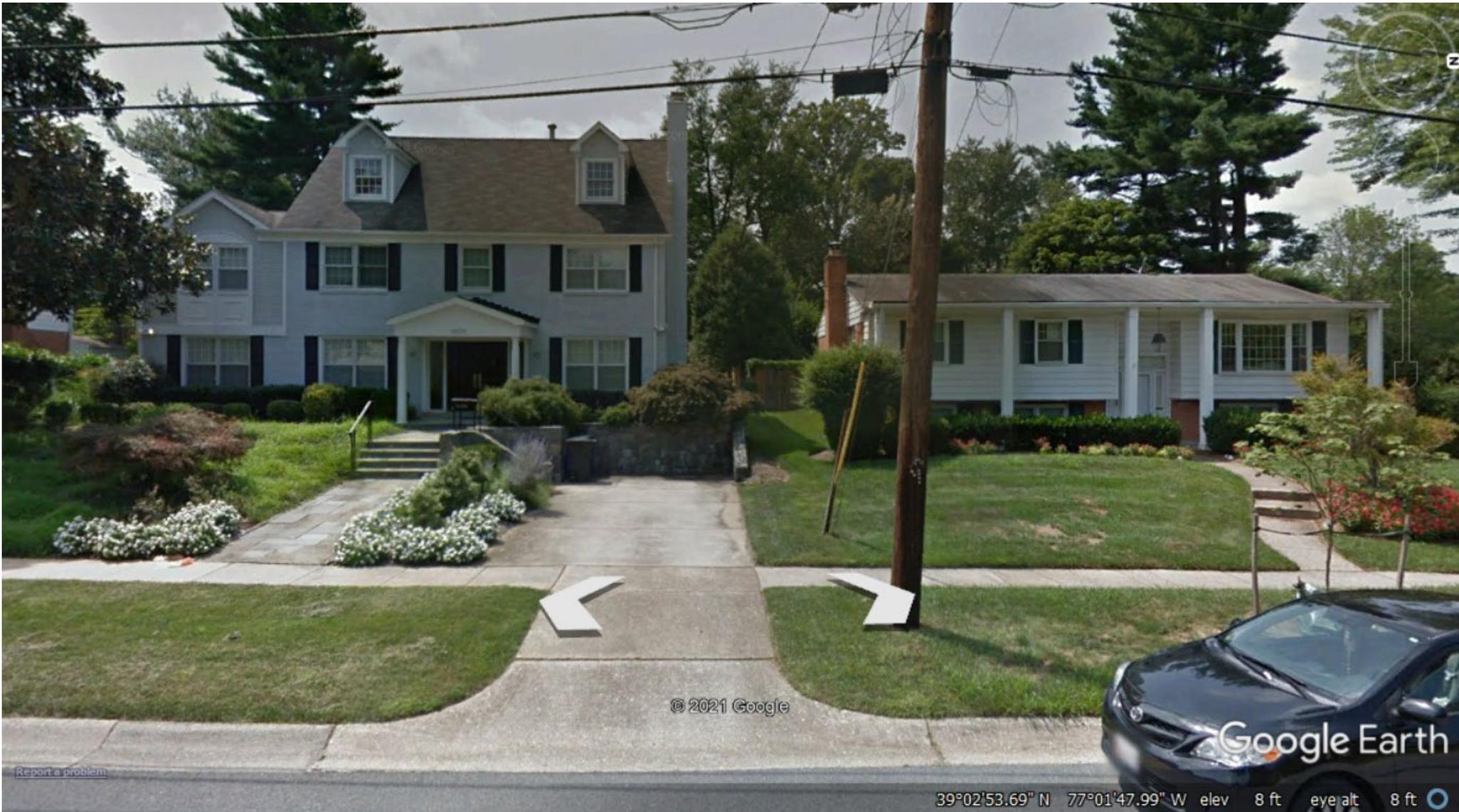
Types of WALKWAYS

WALKWAY to Driveway (to Sidewalk)



Types of WALKWAYS

WALKWAY to Sidewalk and Driveway



Types of WALKWAYS

WALKWAY to Driveway (No Sidewalk)



© 2021 Google

Google Earth

Imagery Date: 5/2012 39°02'54.48" N 77°01'43.26" W elev 24 ft eye alt 8 ft

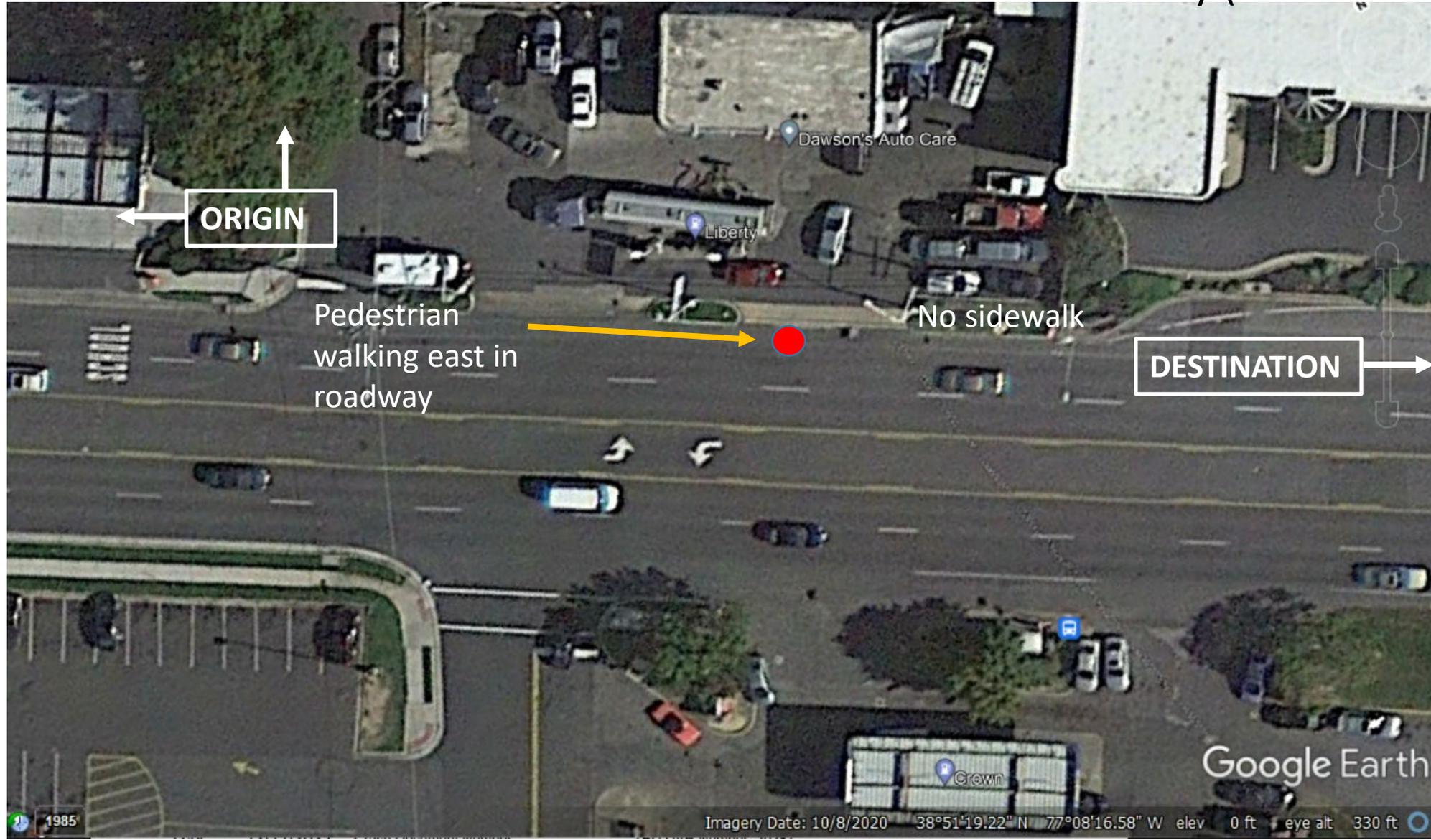
[Report a problem](#)

Let's Learn from Vehicle Access

- Pedestrians start from a building (generally)
 - Use a **WALKWAY** (if available)
- ~~Vehicle~~ Pedestrian accesses ~~street~~ path (sidewalk, ground, street) and (generally) takes the quickest (most direct) route possible to get to the destination

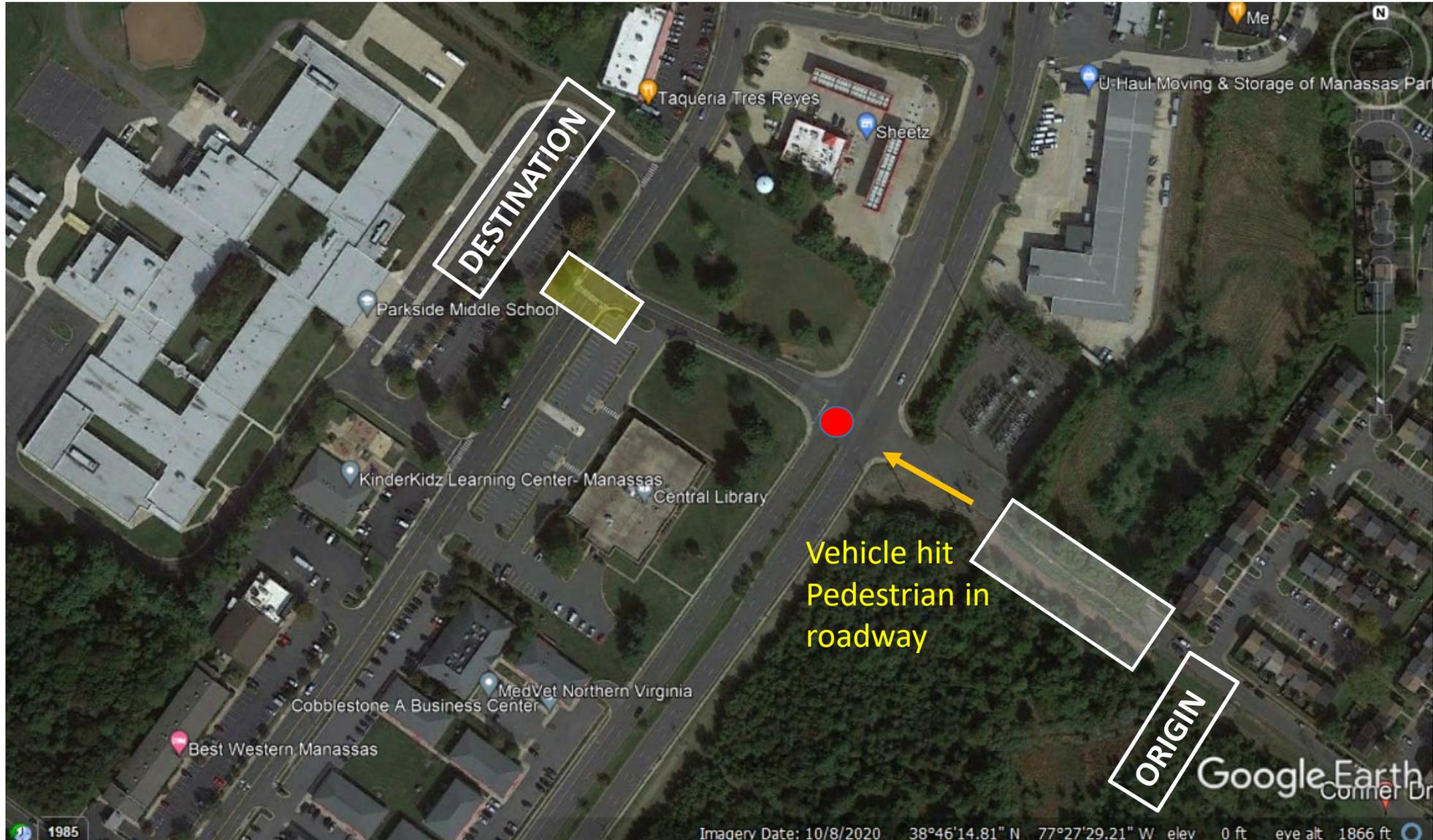
Access Path

Path = Roadway (No Sidewalk)



Access Path

Worn Path to Unmarked Crossing



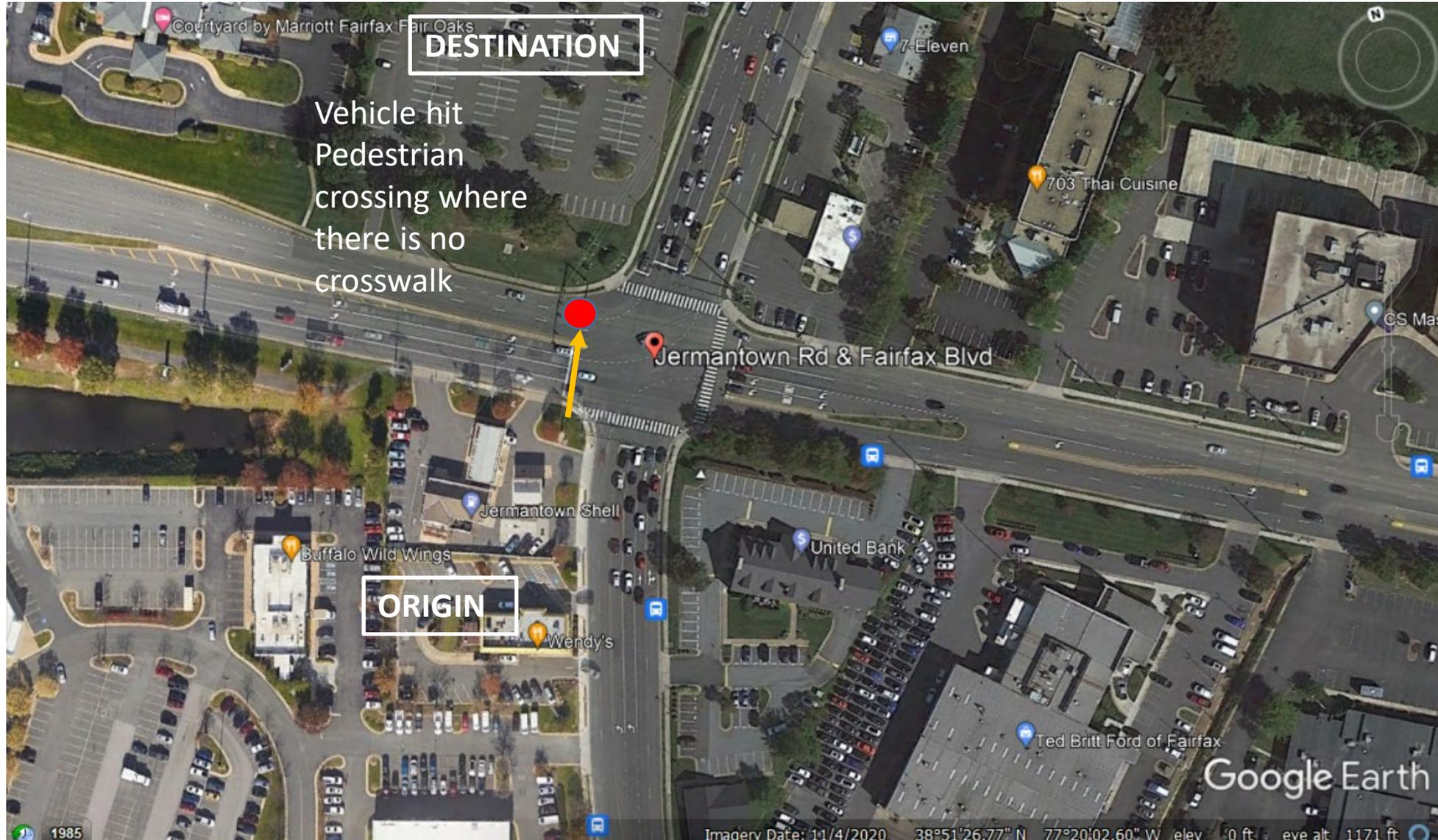
Access Path

Direct Path Discourages Use of Nearby Crosswalks



Access Path

Direct Path Led to Dangerous Crossing

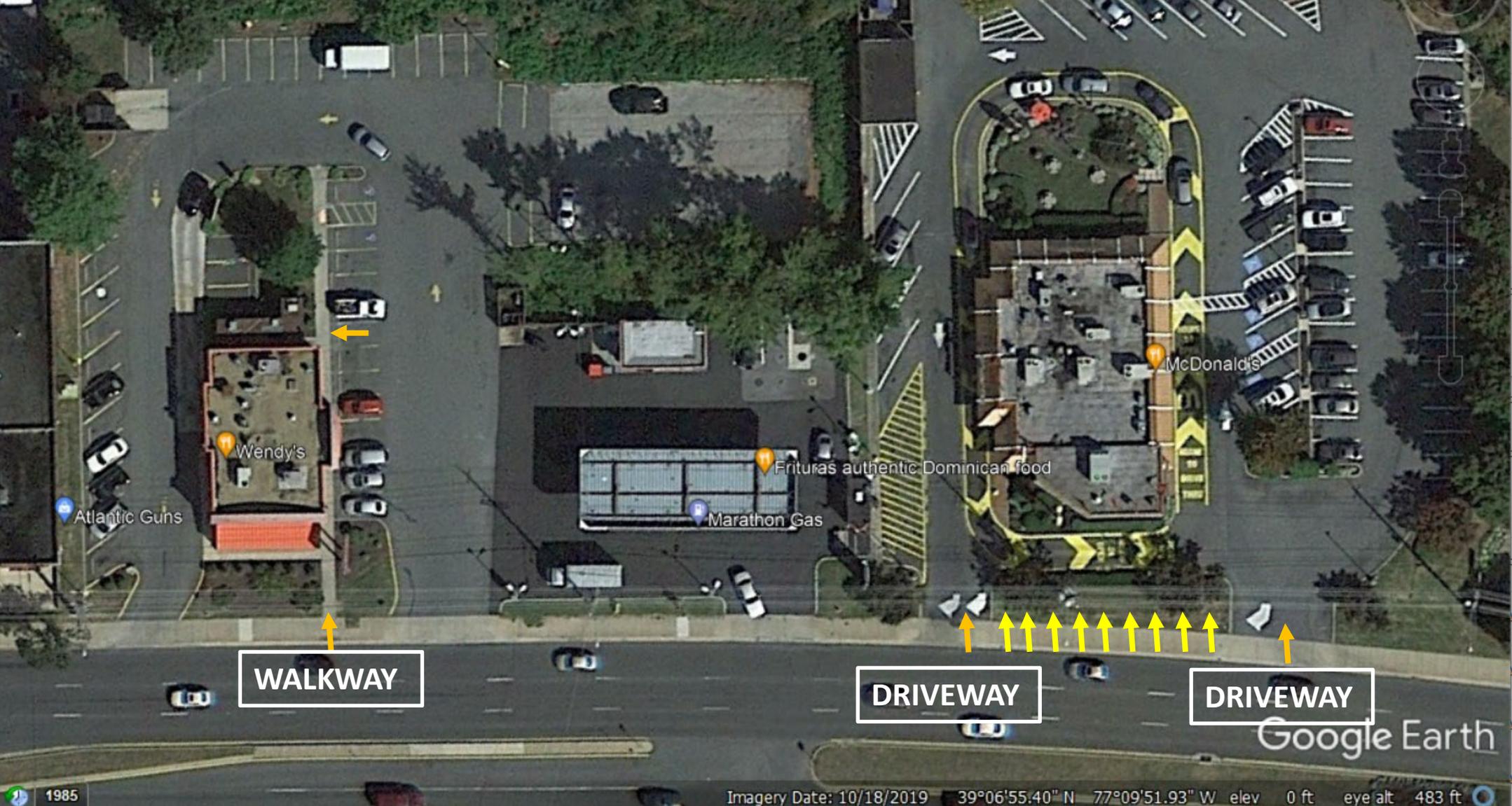


Let's Learn from Vehicle Access

- Pedestrians start from a building (generally)
 - Use a **WALKWAY** (if available)
- Pedestrian accesses path (sidewalk, ground, street) and (generally) takes the quickest (most direct) route possible to get to the destination
- ~~Vehicle~~ Pedestrian finds parking either on a street or by accessing a driveway (for a pedestrian to get out) enters property of destination

Pedestrian Access

Where is the Pedestrian Access Point?



Pedestrian Access

On-Street Parking Causes Mid-Block Crossings



Let's Learn from Vehicle Access

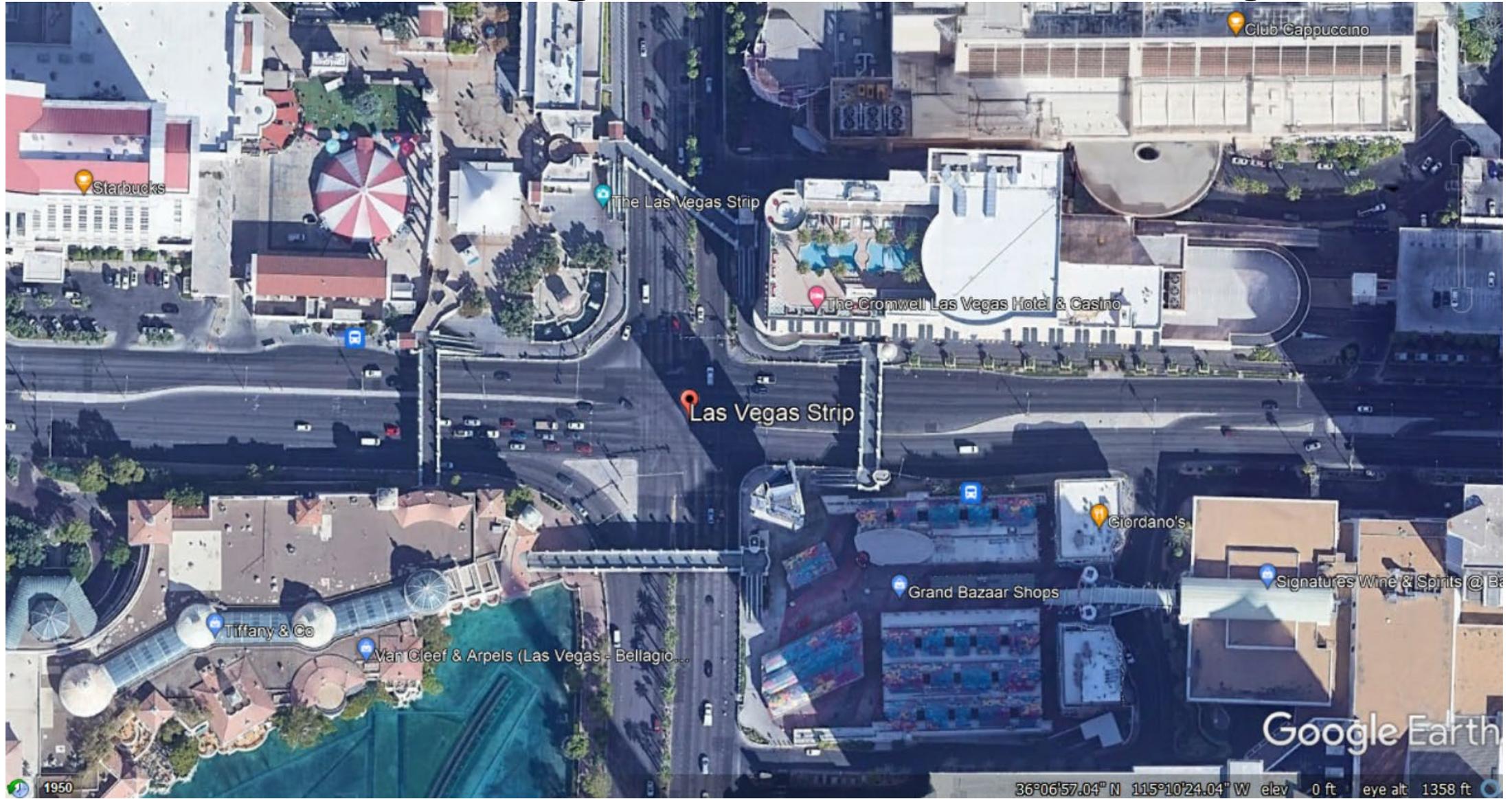
- Pedestrians start from a building (generally)
 - Use a **WALKWAY** (if available)
- Pedestrian accesses path (sidewalk, ground, street) and (generally) takes the quickest (most direct) route possible to get to the destination
- Pedestrian enters property of destination
- Pedestrian accesses final destination
- **CONCLUSION: THERE IS ALMOST NO PEDESTRIAN ACCESS MANAGEMENT**

What can we do from an Access Management perspective to improve pedestrian safety?

- Pedestrians start from a building (generally)
 - Create **DEFINITION OF PEDESTRIAN ACCESS AS WALKWAY**
 - Develop **WALKWAY TIERS** and possibly **WALKWAY LEVEL OF SERVICE (LOS)**
- Pedestrian accesses path (sidewalk, ground, street) and (generally) takes the quickest (most direct) route possible to get to the destination
 - Develop **METHODS** to make **the MOST DIRECT PATH = the SAFEST PATH**
 - Start at the **PED ORIGIN** and end at the **PED DESTINATION**. Need to think about the **demand side first**.
 - Remember that PED O-Ds come from **PARKED VEHICLES** and **TRANSIT STOPS** too.
 - Use **Pedestrian Access Management tools** to alter direct paths when necessary
 - Don't apply "**ENGINEERING ARROGANCE**" – Don't assume that because an engineer places a crosswalk at a location that people will automatically go out of there way to use it

Ped Access Management

Full Crossing Restrictions



Ped Access Management

Full Crossing Restrictions



Ped Access Management

Median Restrictions



Ped Access Management

Strategic Parking Locations



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 - Develop METHODS to make **the MOST DIRECT PATH = the SAFEST PATH**
 - Don't apply "**ENGINEERING ARROGANCE**" – Don't assume that because an engineer places a crosswalk at a location that people will automatically go out of their way to use it
- Pedestrian enters property of destination
 - **WALKWAY TIERS** for **HIGHER DENSITY** and **OTHER CONTEXTS** locations may be different
- Pedestrian accesses final destination

QUESTIONS?

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VASITE Conference 2020

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