



CONNECTED SMART REGIONS

***Dan Nall - Director Traffic & Smart Cities
Kapsch***

Connected Home Devices

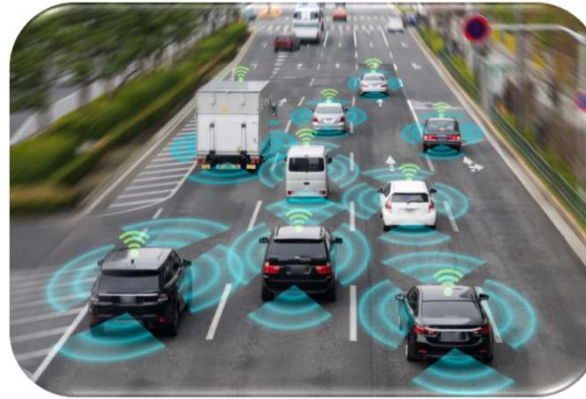
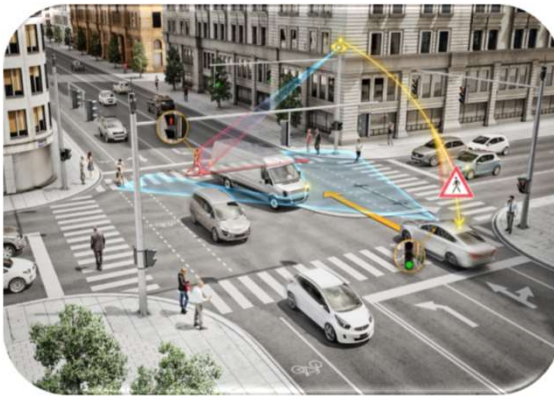


What is a Smart City?

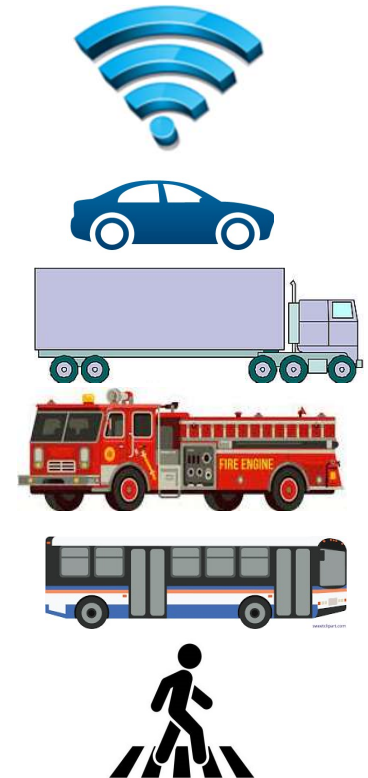


Not a Smart City Rather a Smart Region

- > Intersection
- > Freeway
- > Pedestrians
- > Emergency
- > Workzone
- > Transit



kapsch >>>
challenging limits

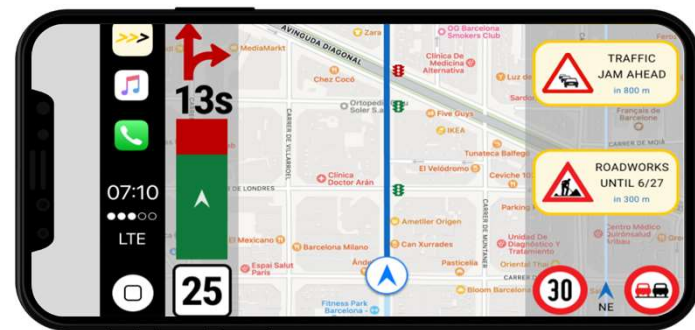


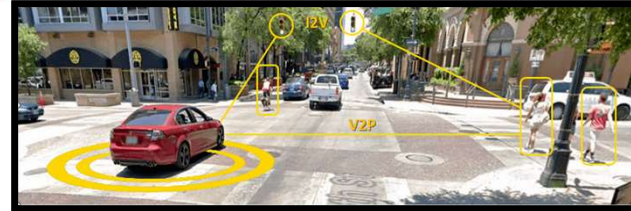
Connected – Smart Possibilities

- > Cars
- > Trucks
- > Transit
- > Emergency Vehicles
- > Work Zone
- > Snow plows
- > EV charging stations
- > Weather
- > Street lights
- > Parking
- > DMS Signs
- > Variable speed limits
- > Wrong Way Detection
- > Stopped vehicle Detection
- > SPAT Data
- > GLOSA (Green Light Optimized Speed Advisory)
- > Scooters
- > Pedestrian Safety
- > Bike Safety
- > HAWK/RRFB crossing
- > Bike Rental
- > Cameras
- > Tolling
- > Weigh in Motion/Commercial Vehicles
- > Near miss Data
- > Smart Waste Facilities

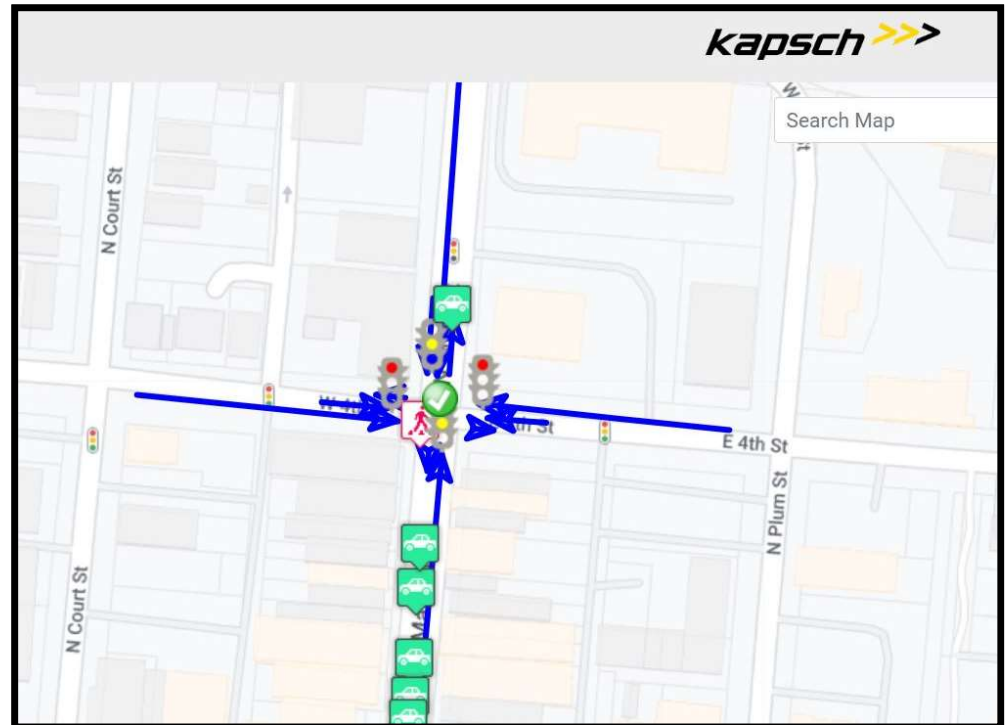
Connected Roadways

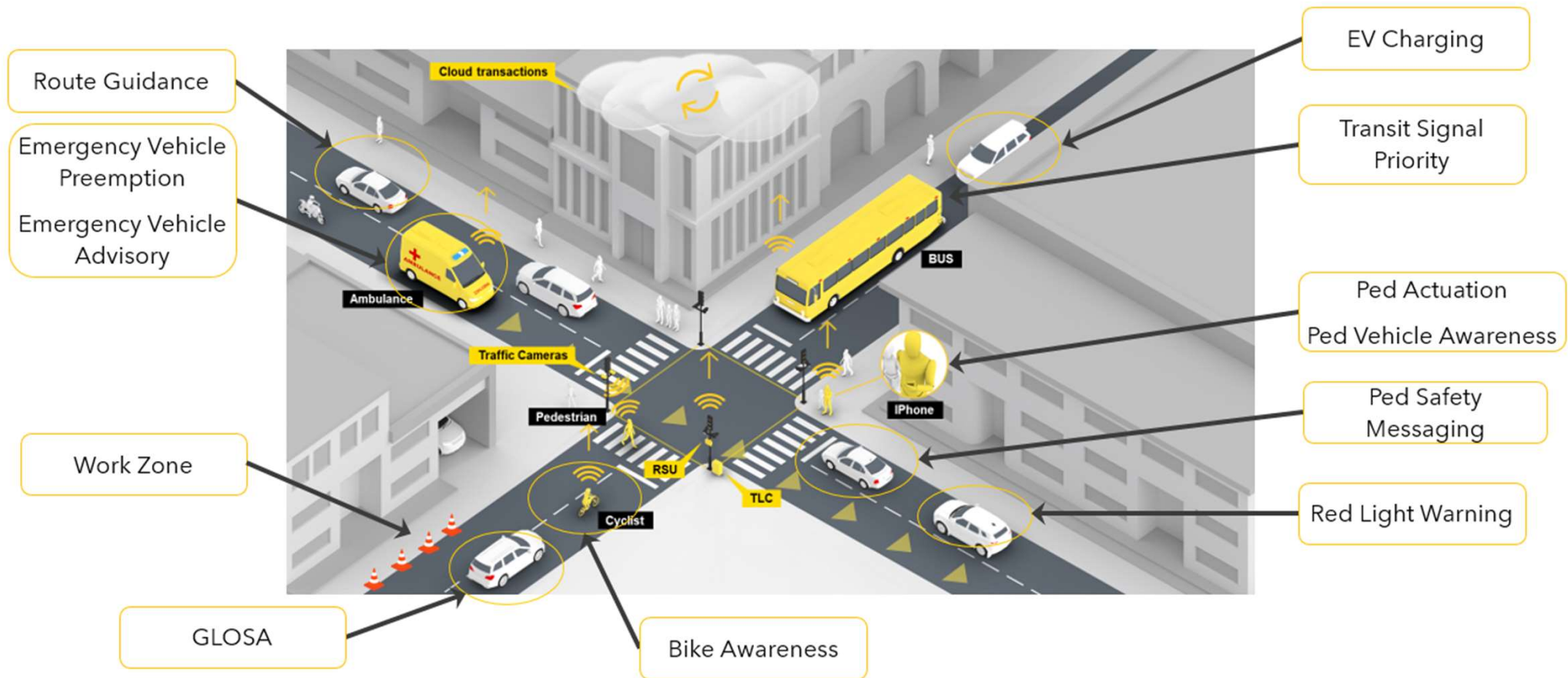
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challenging limits





Connected Intersection





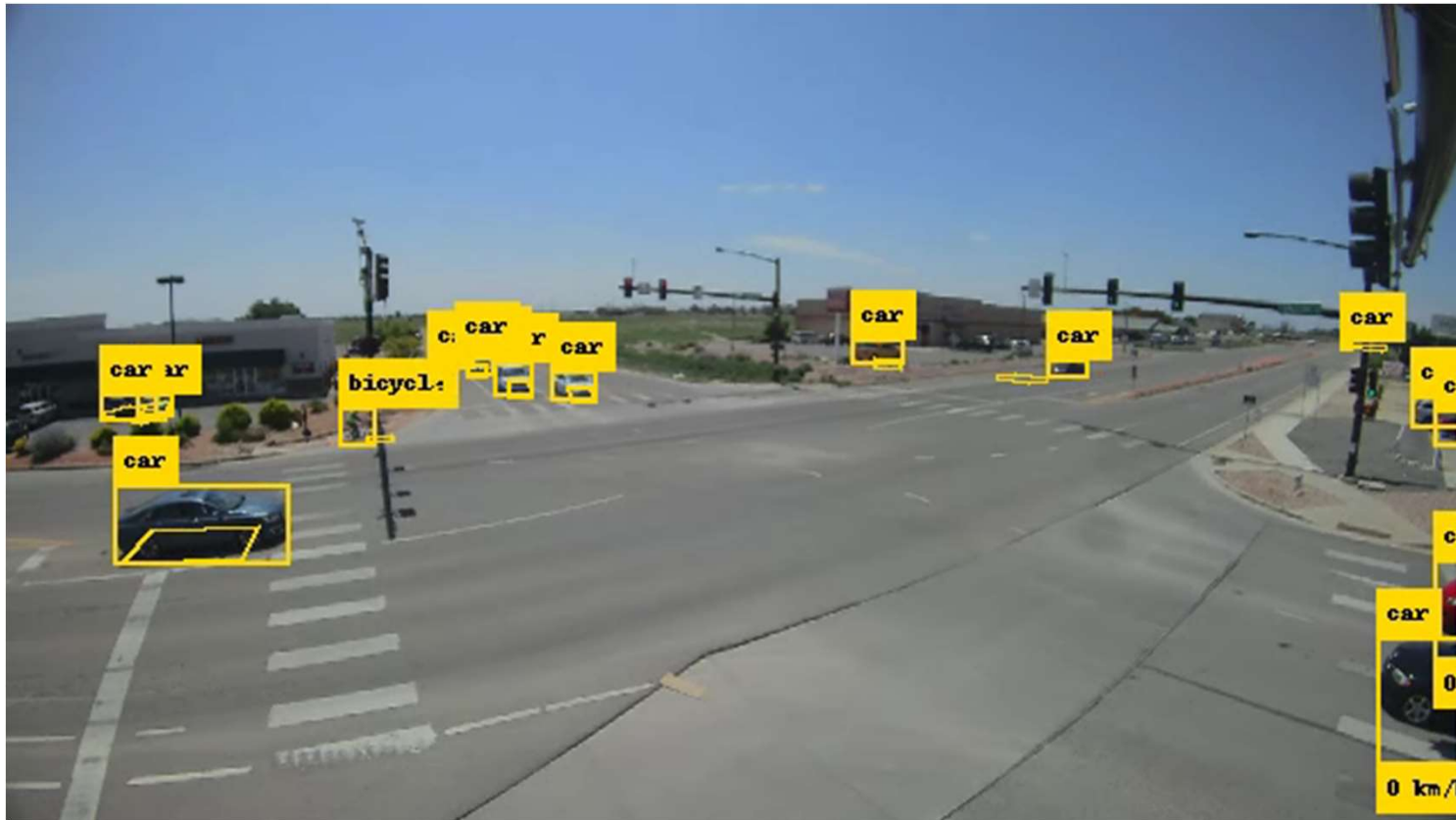


safety applications

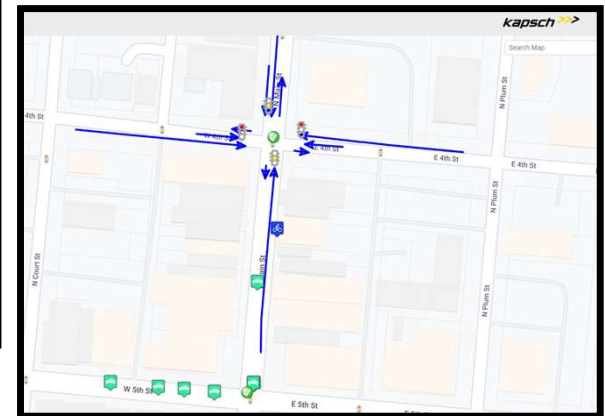
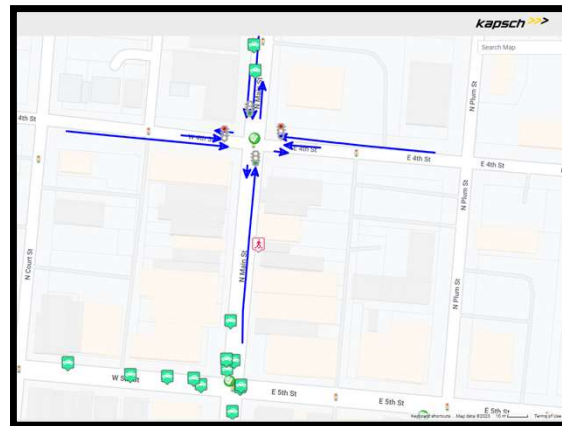
Near Miss Vehicle-Pedestrian Video Analytics



Near Miss Vehicle-Bicycle Video Analytics



Connected Non-Intersection Crossing

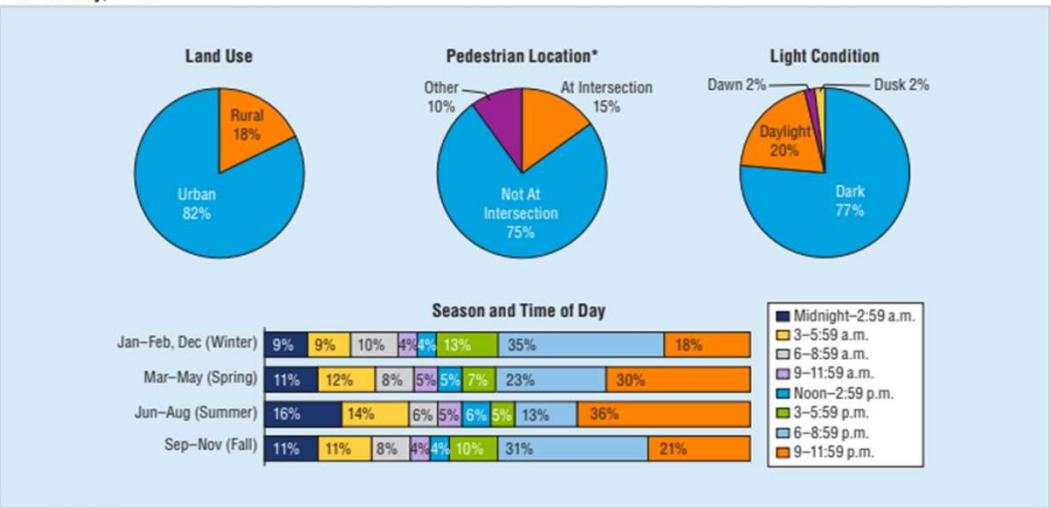


Non-Intersection Crossings



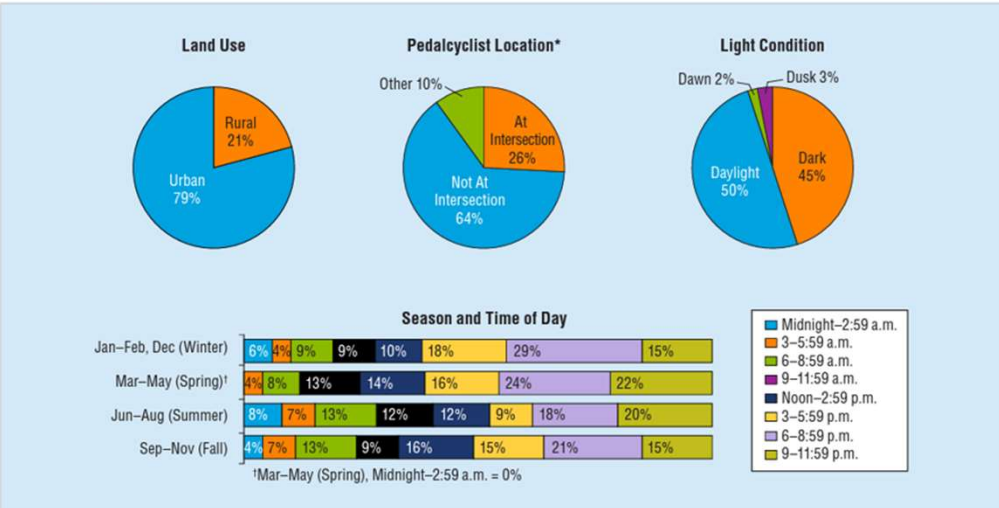
Non-Intersection is Critical for Safety

Percentage of Pedestrian Fatalities in Relation to Land Use, Pedestrian Location, Light Condition, and Season and Time of Day, 2020

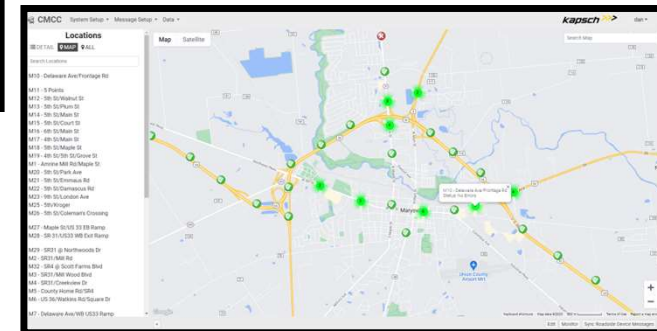


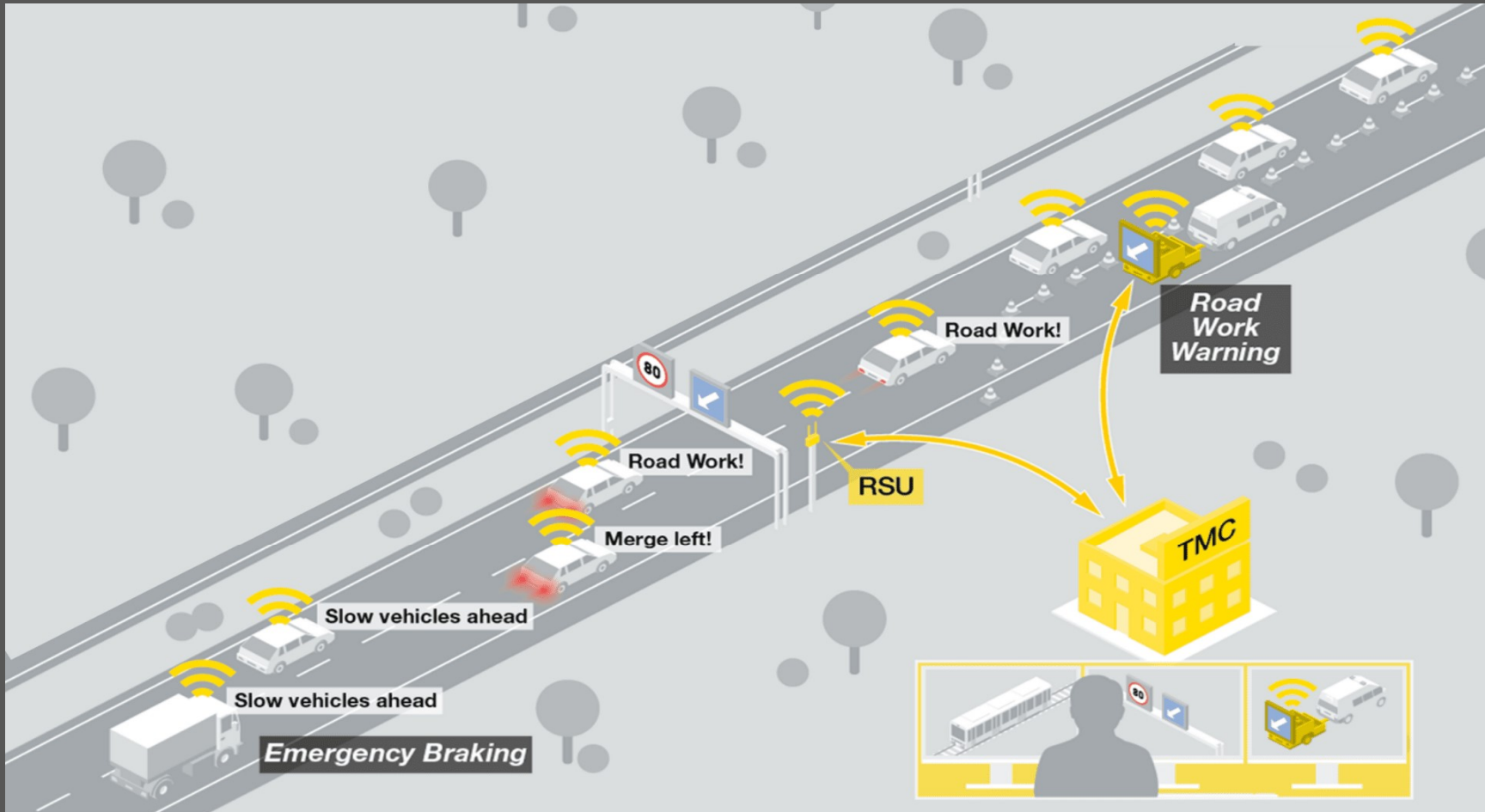
Source: FARS 2020 ARF
 *Based on location of pedestrian struck at the time of the crash. "Other" includes sidewalk, bicycle lane, median/crossing island, parking lane/zone, shoulder/roadside, driveway access, shared-use path, and non-traffic area, which may or may not have been at intersection, but were not distinguished by collected data. Thus, "At Intersection" and "Not At Intersection" do not include those in the "Other" category that were at intersection or not at intersection.
 Note: Percentages may not add up to 100 percent due to independent rounding. Unknowns were removed before calculating percentages.

Percentage of Pedalcyclist Fatalities in Relation to Land Use, Pedalcyclist Location, Light Condition, and Season and Time of Day, 2020

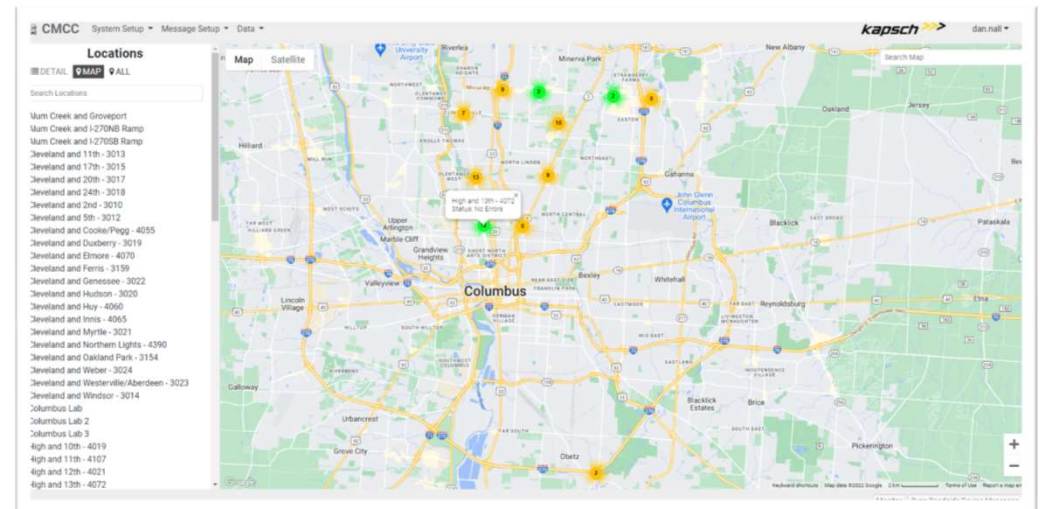


Source: FARS 2020 ARF
 *Based on location of pedalcyclist struck at the time of the crash. "Other" includes sidewalk, bicycle lane, median/crossing island, parking lane/zone, shoulder/roadside, driveway access, shared-use path, and non-traffic area, which may or may not have been at intersection, but were not distinguished by collected data. Thus, "At Intersection" and "Not At Intersection" do not include those in the "Other" category that were at intersection or not at intersection.
 Notes: Percentages may not add up to 100 percent due to independent rounding. Unknowns were removed before calculating percentages.
¹Mar-May (Spring), Midnight-2:59 a.m. = 0%





Managing Connected Regions



Remote RSU Agnostic Monitoring and Programming

CMCC System Setup Message Setup Data kapsch dan

Locations

DETAIL MAP ALL

Search Locations

D10 - Avery Road @ Shier Rings Road

D11 - N. High St @ North St
D12 - N. High @ Rock Cress
D14 - SR161 @ Dublin Center Drive

D1 - Bridge Street @ High Street
D2 - West Bridge Street @ High School Road

D3 - West Bridge Street @ Shawan Falls Drive

D4 - West Bridge Street @ Post Road

D5 - IR270NB/US33EB
D6 - Avery-Muirfield Drive @ Perimeter Drive

D7 - Avery-Muirfield Drive @ Perimeter Loop Drive

D8 - Avery Muirfield Drive @ US33 WB Ramps
D9 - Avery Muirfield Drive @ US33 EB Ramps

M10 - Delaware Ave/Frontage Rd
M11 - 5 Points
M12 - 5th St/Walnut St
M13 - 5th St/Plum St
M14 - 5th St/Main St
M15 - 5th St/Court St
M16 - 6th St/Main St
M17 - 4th St/Main St
M18 - 5th St/Maple St
M19 - 4th St/5th St/Grove St
M1 - Amrine Mill Rd/Park Ave
M20 - 5th St/Park Ave
M21 - 5th St/Emmaus Rd
M22 - 5th St/Damascus Rd

Map Satellite

Search Map

Fort Wayne

Akron

Columbus

Dayton

Map data ©2023 Google 10 km

Edit Monitor Sync Roadside Device Messages

Creating Smart Regions



Events Impact Regions Not Just Cities



Phoenix, AZ - September 8, 2014



Storms produced 3.30" inches of rain at Phoenix Sky Harbor airport which was the most rain ever recorded on a calendar day in its nearly 115-year period of record. Other locations across central portions of the county registered even greater totals with upwards of 4.00"-5.50"

1 inch of rain = 13 inches of snow



Major Roadblocks to Connected Regions

- > Operational Control
- > Jurisdictional Boundaries
- > Connected Facilities
- > Funding



Regional Collaboration – Not Just Traffic

- > Cities
- > Counties
- > States
- > MPOs



Digital Transformation of Smart Regions



Just like in our homes and offices, the Digital transformation of our infrastructure will define the future



Issues that impact transportation stakeholders:



Safety

Roadway safety is a key factor of all urban traffic investment initiatives.



Mobility

More efficient multi-modal transportation within and around urban areas drives economic growth.



Sustainability

A cleaner environment enables more access and use, attracting residents and businesses.

THANK YOU

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