

A man in a dark suit and glasses is lying face down on a paved road, positioned directly over a double yellow line. The road stretches into the distance under a clear blue sky. In the background, there are commercial buildings, some with signs like 'WALMART' and 'KROGER', and several streetlights. The overall scene is a metaphorical representation of a roadblock or a journey.

Confessions of a Recovering Engineer

TRANSPORTATION FOR A STRONG TOWN

Charles L. Marohn, Jr. | Civil Engineer, Urban Planner, Author
@clmarohn | @strongtowns | www.strongtowns.org



Civic Center
Hill Street
EXIT ONLY

10 SOUTH
Downtown

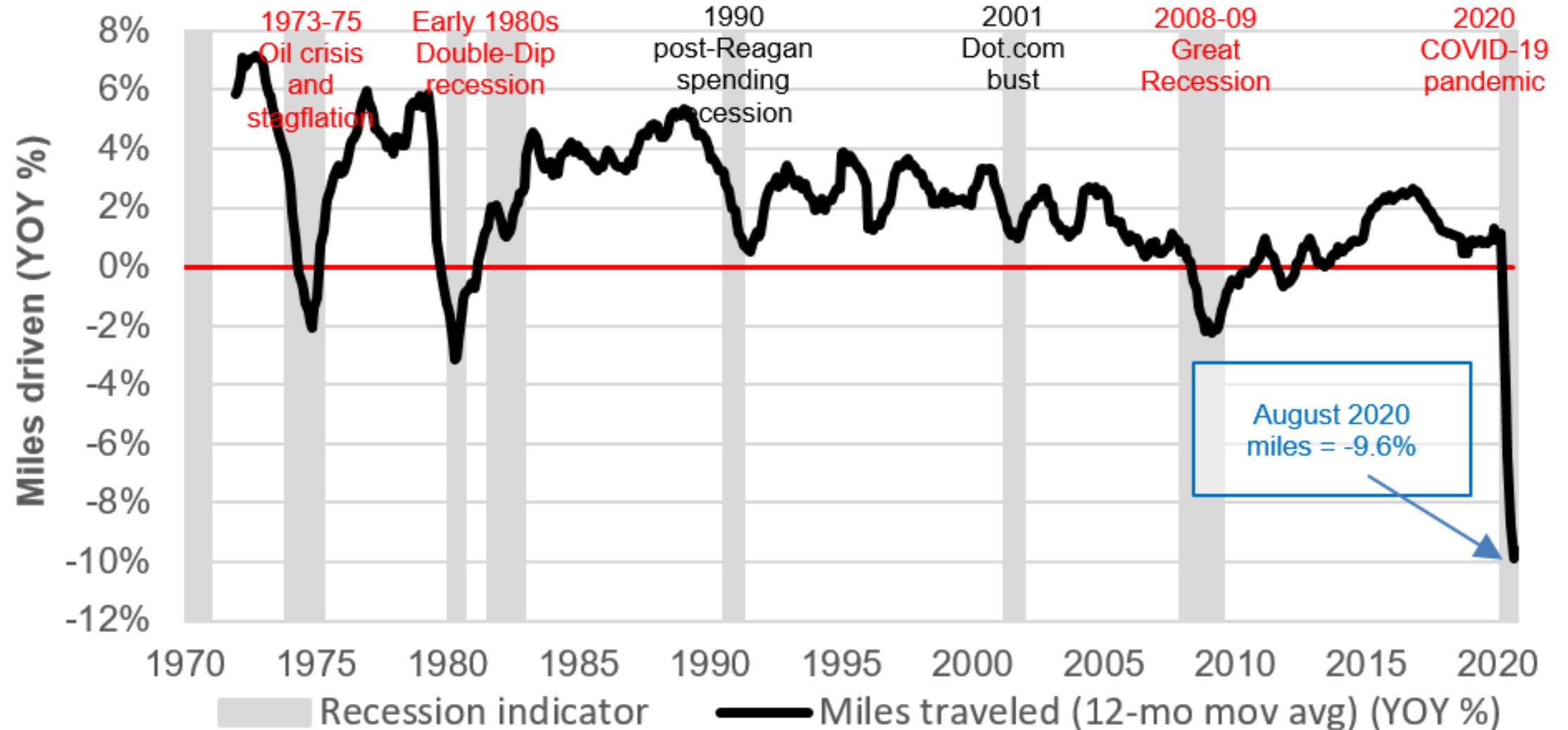
Stadium Way
Dodger Stadium
EXIT ONLY 1/4 MILE

15

EXIT
25

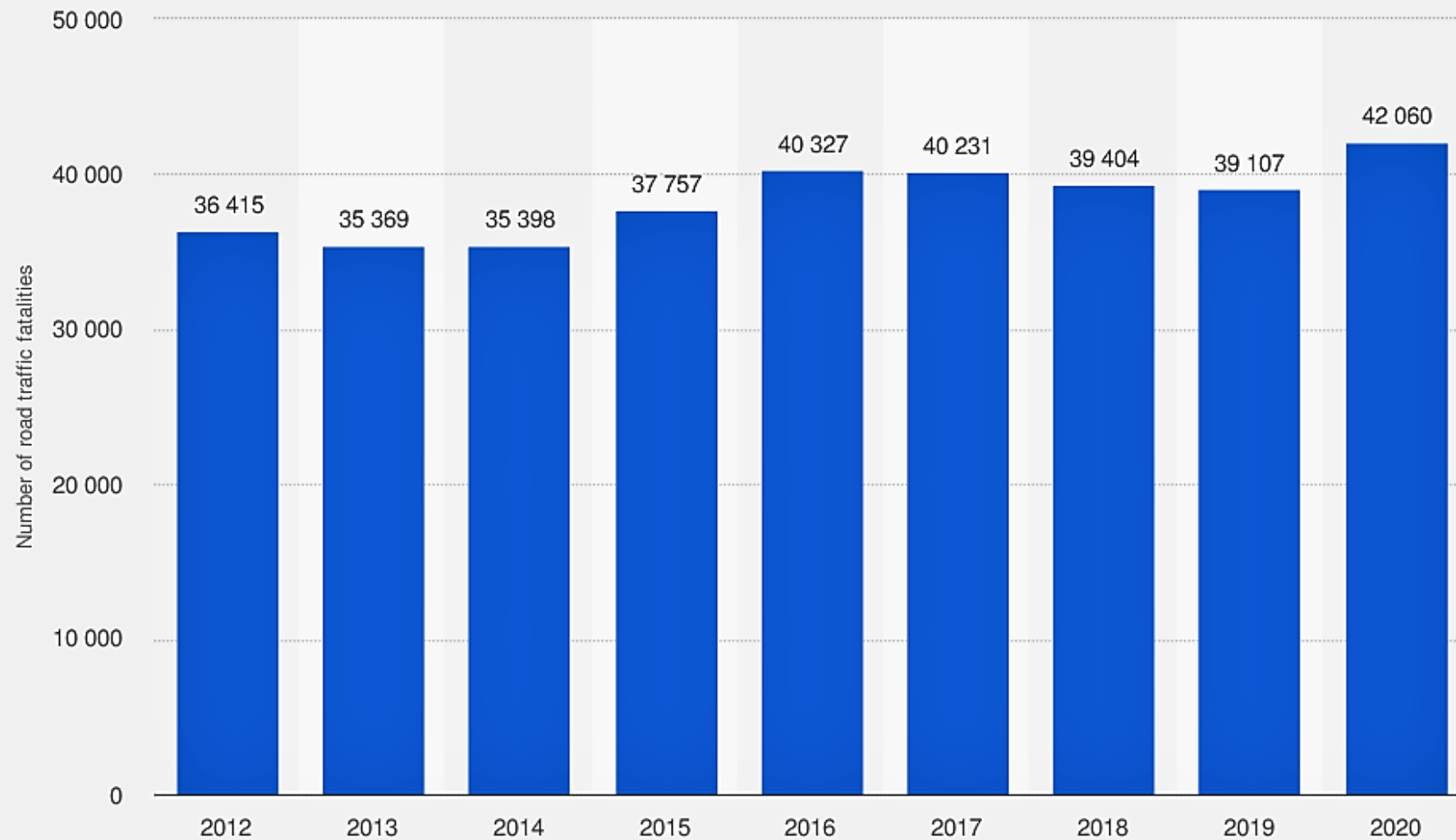
Vehicle miles traveled before and after recessions

(Year-over-year % change in 12-month moving average of miles)



Source: FHA; NBER; RSM US

Number of road traffic fatalities in the United States from 2012 to 2020



Sources

National Safety Council; NCHS
© Statista 2021

Additional Information:

United States; National Safety Council; NCHS; 2012 to 2020



How do we explain this?



The
Reckless
Driver™

← NEWS

2020 Fatality Data Show Increased Traffic Fatalities During Pandemic

Risky Driving Behaviors Including Failure to Wear a Seatbelt, Speeding, and Drinking While Driving Identified as Contributing Factors

Pedestrian Deaths Spike in U.S. as Reckless Driving Surges

Fatalities are climbing to record levels two years into the pandemic. Authorities cite drivers' anxiety levels, larger vehicles and fraying social norms.



It's not just your imagination. Drivers in the pandemic have gotten more reckless

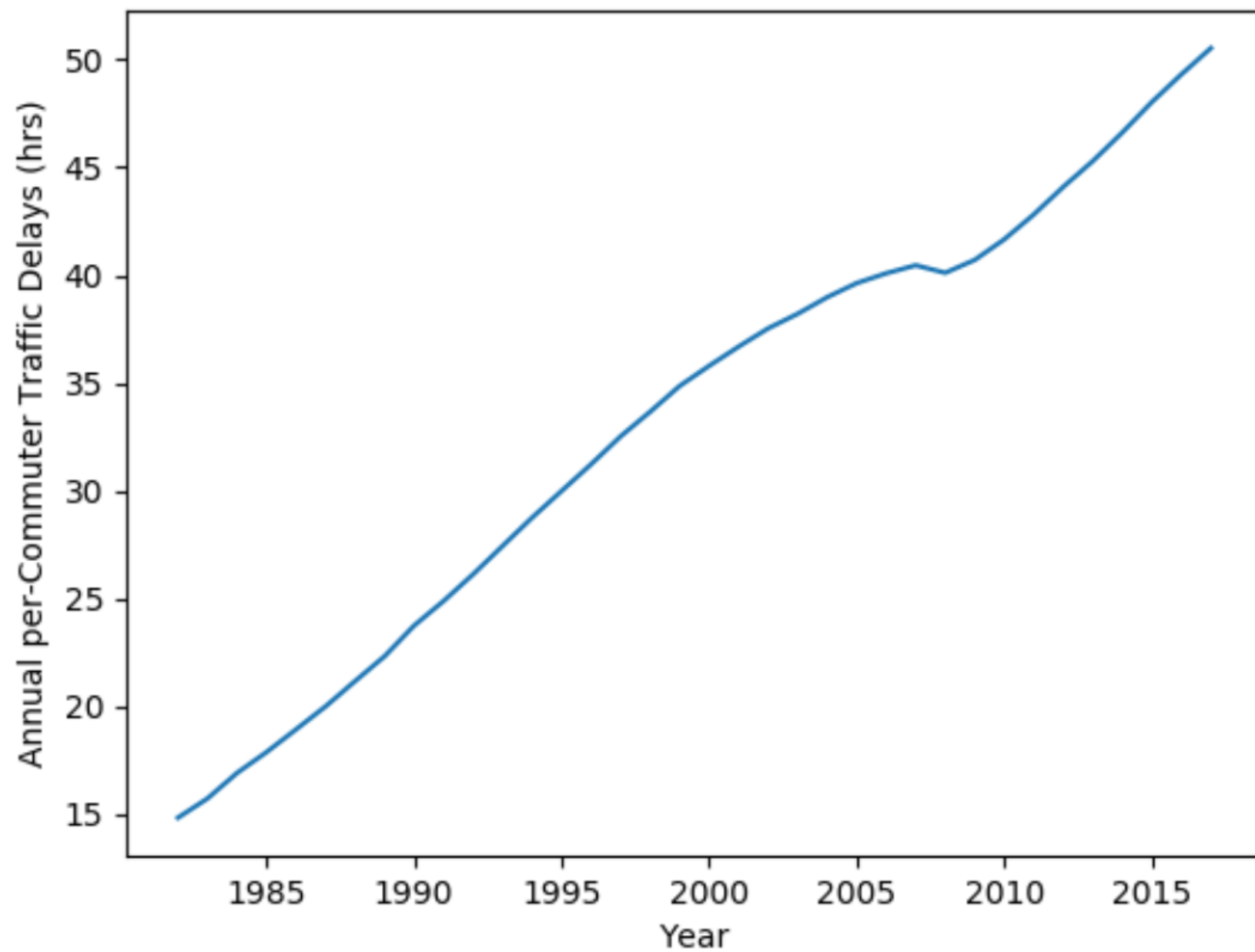


Car crash deaths have surged during COVID-19 pandemic. Here's why

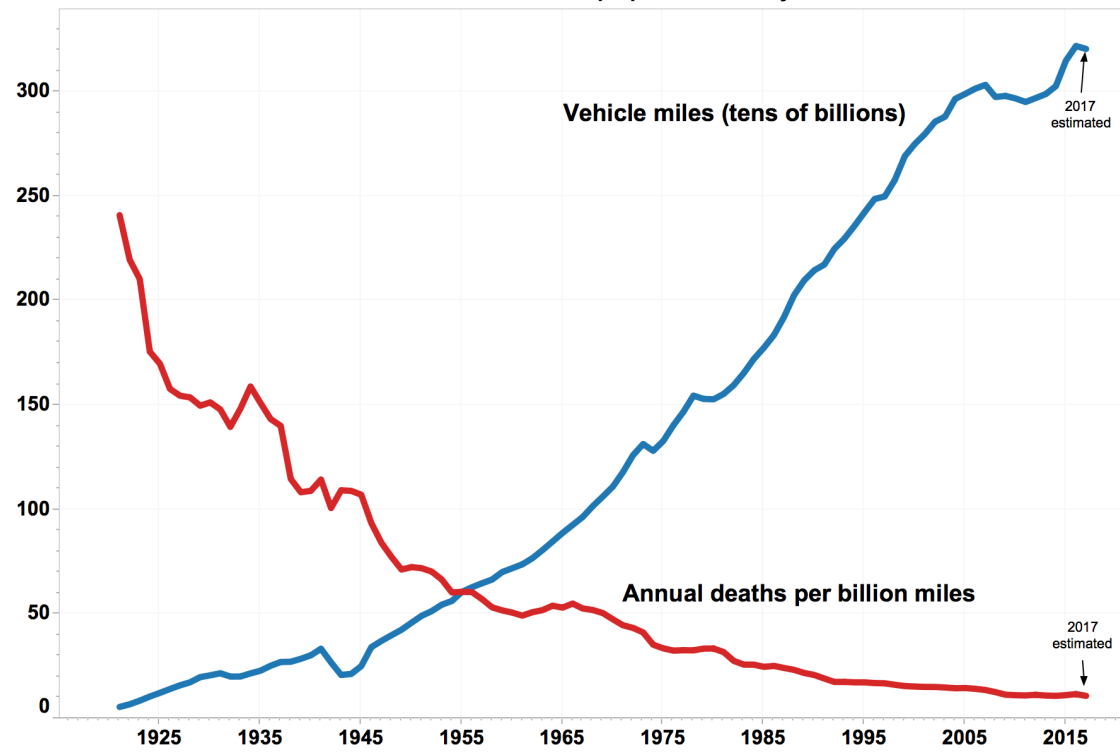
[Reckless driving is] “a sign of the overall lack of consideration we’re showing for other citizens, whether it be wearing masks, or not getting vaccinated, or how we drive.

It’s very aggressive. It’s very selfish.”

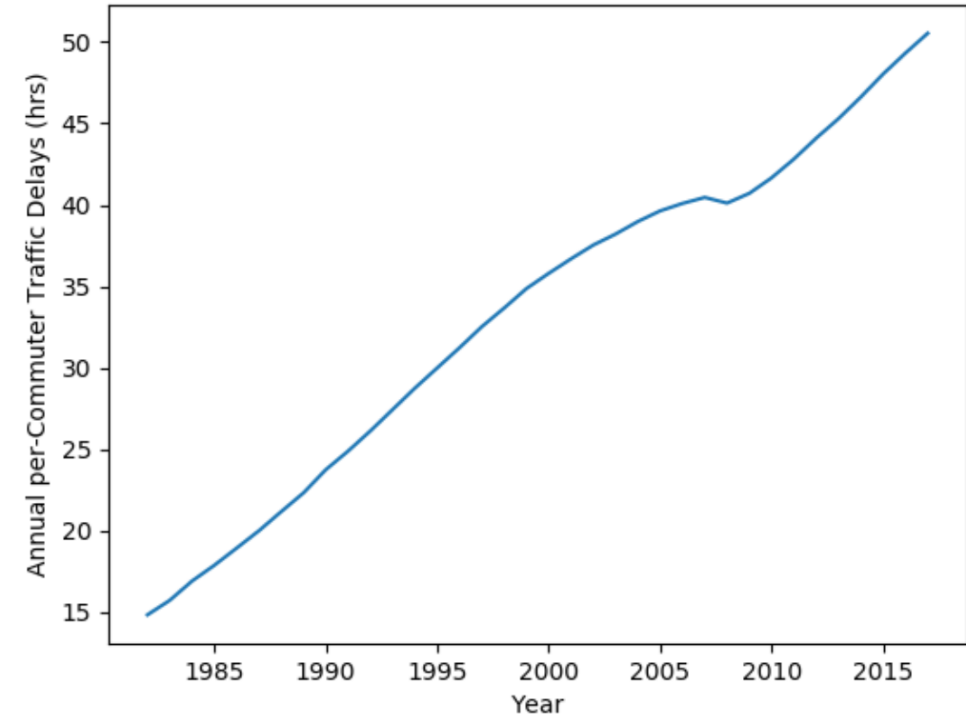
Average Annual per-Commuter Traffic Delays over Time



US vehicle miles traveled and propotionate fatality rate



Average Annual per-Commuter Traffic Delays over Time



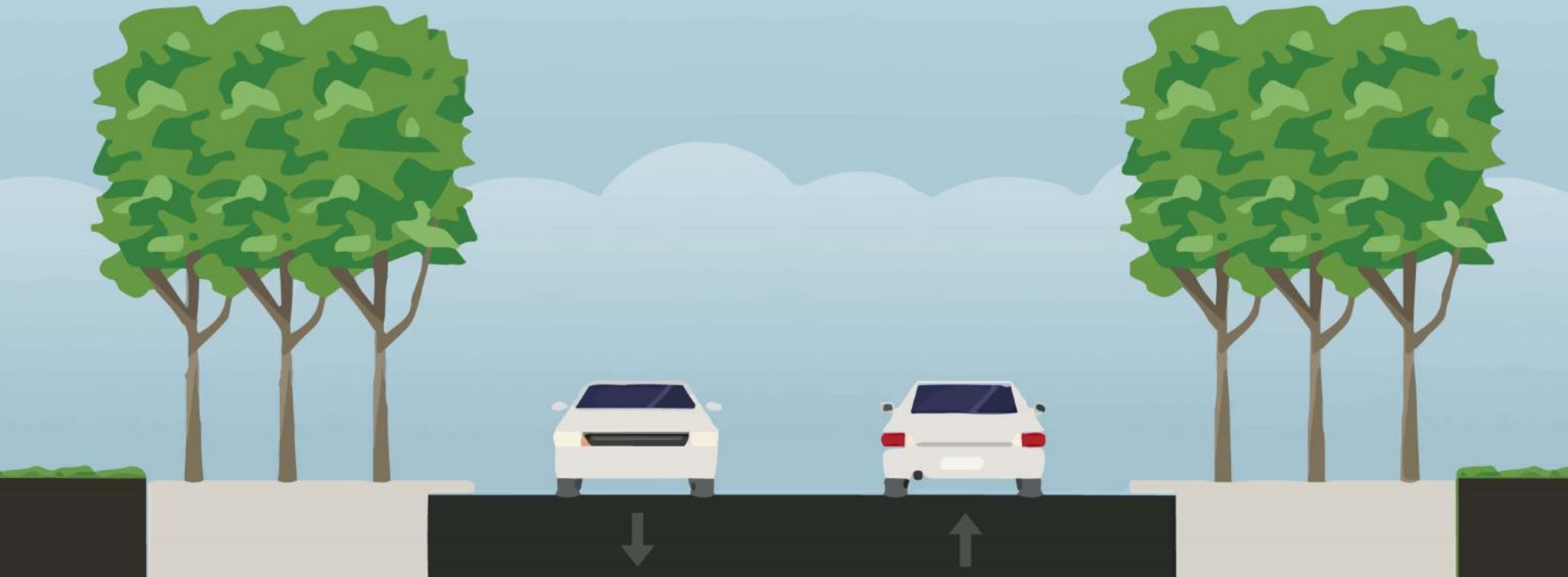
FORGIVING DESIGN



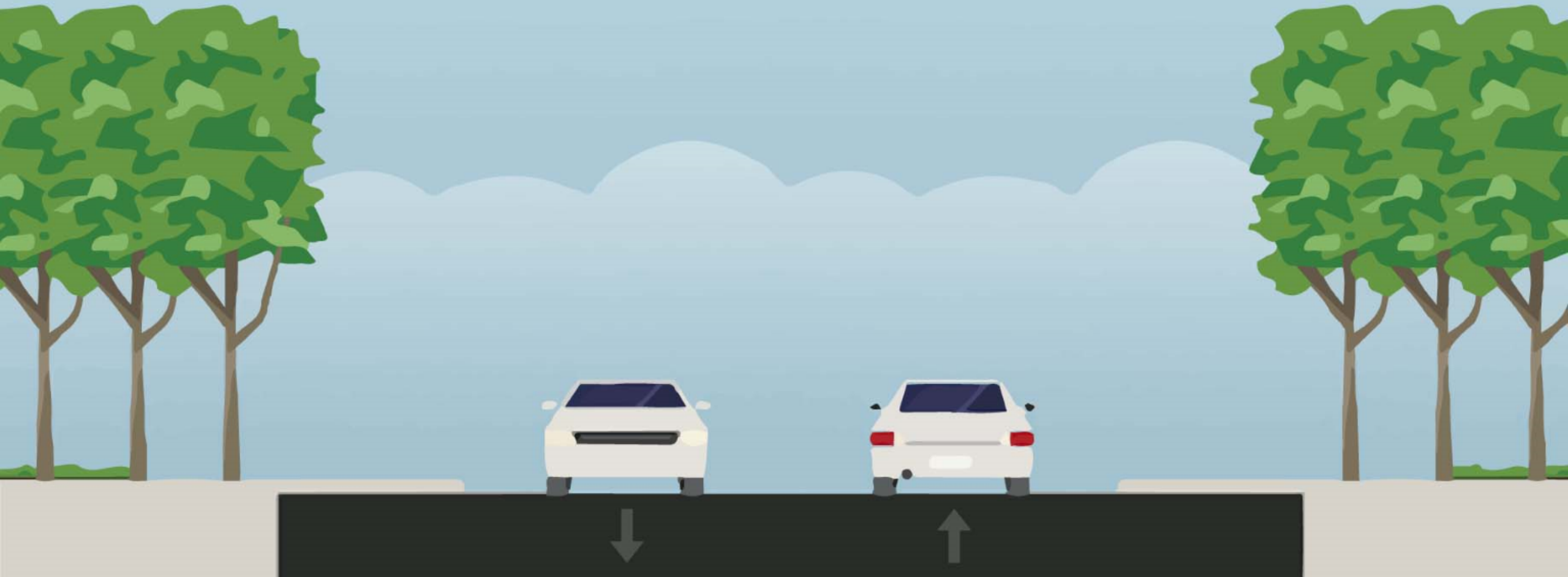
FORGIVING DESIGN



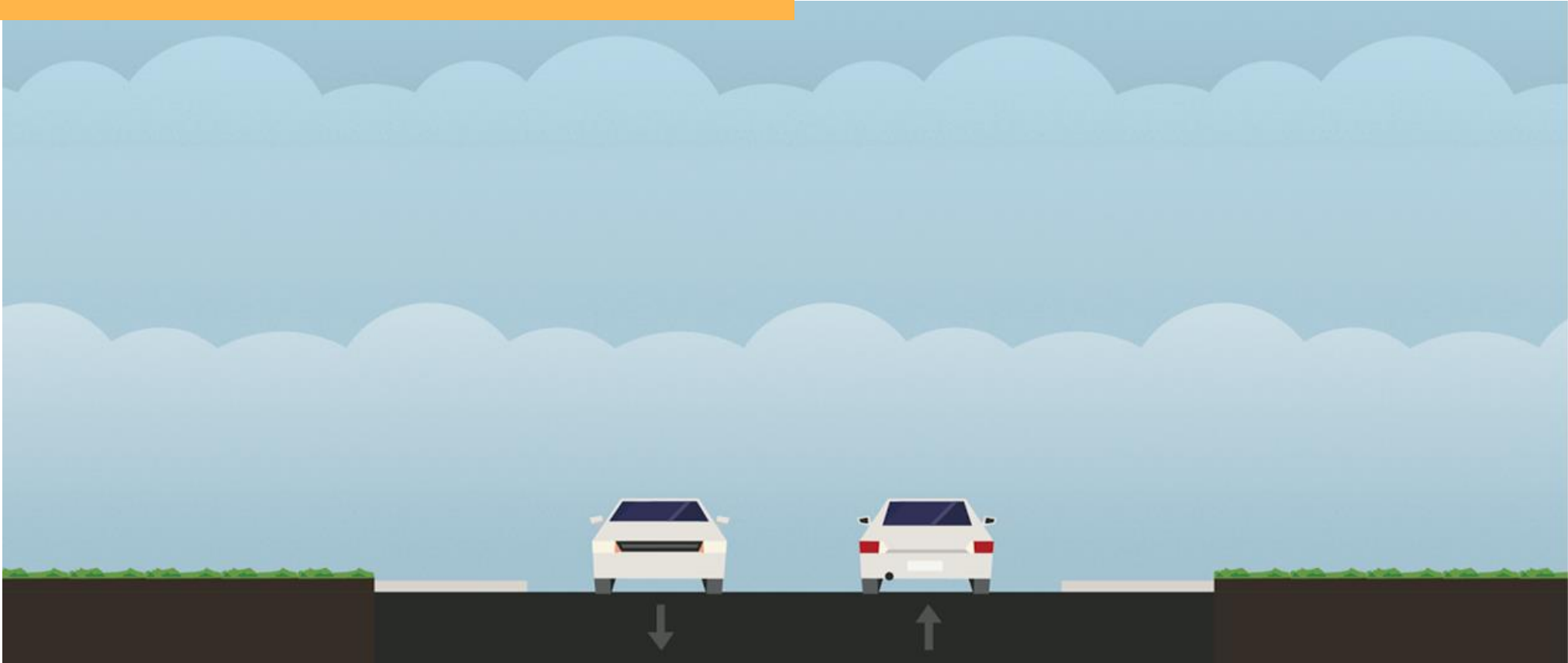
FORGIVING DESIGN



FORGIVING DESIGN



FORGIVING DESIGN



FORGIVING DESIGN

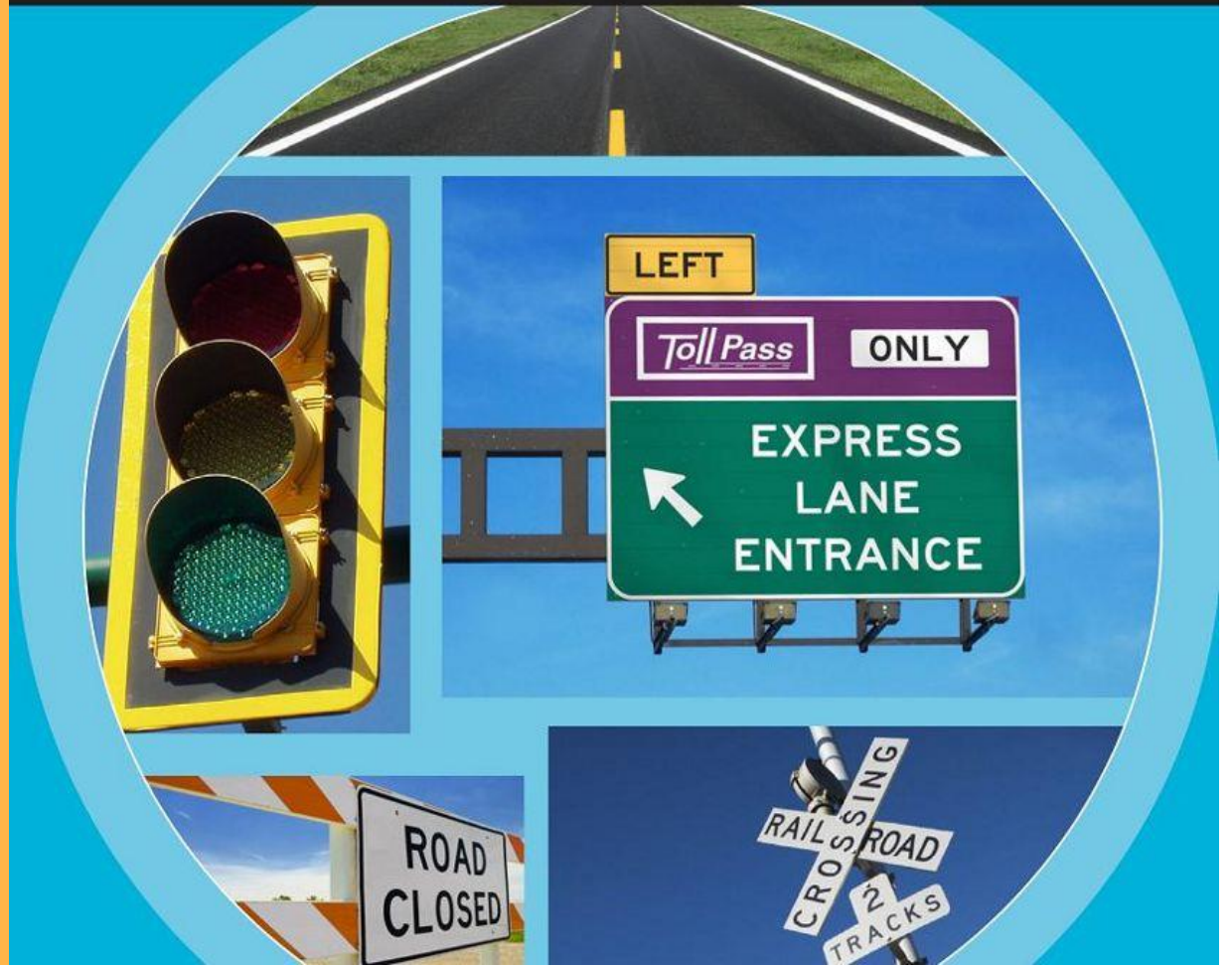


Manual on Uniform Traffic Control Devices

for Streets and Highways

2009 Edition

225. Street –
see Highway



**SPEED
LIMIT**
25

SHERIFF

40

YOUR SPEED



SYSTEM 1

Intuition & instinct

95%

Unconscious
Fast
Associative
Automatic pilot



SYSTEM 2

Rational thinking

5%

Takes effort
Slow
Logical
Lazy
Indecisive

Uncomfortable Truth

People will tend to drive the speed they feel comfortable driving, regardless of any other factor.

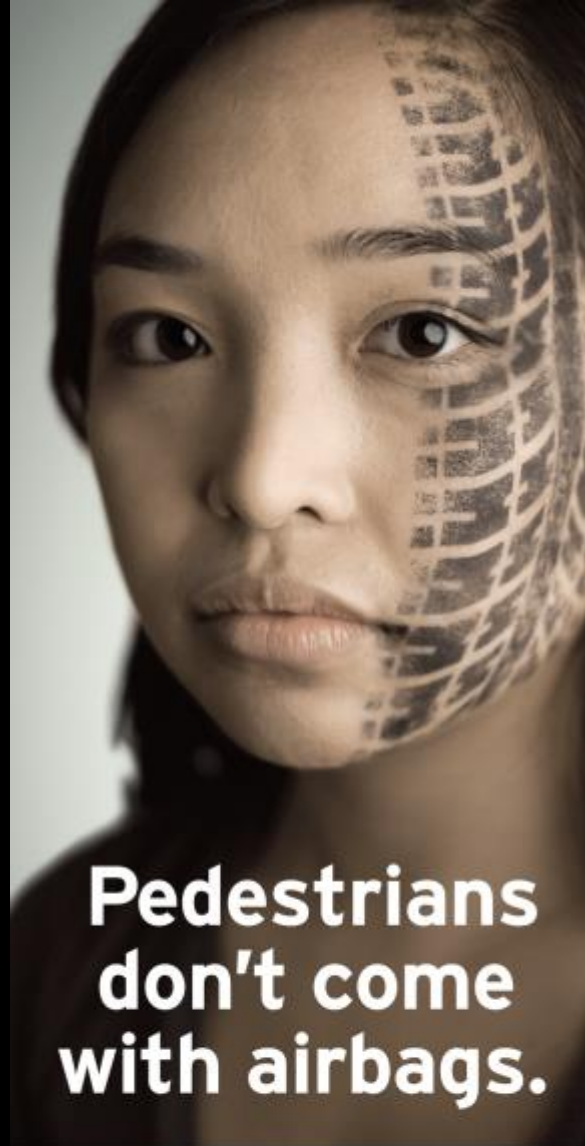
**BE SAFE.
DRIVE SMART.**



**Some
mistakes you
can't take back.**

Stop for pedestrians
at crosswalks.

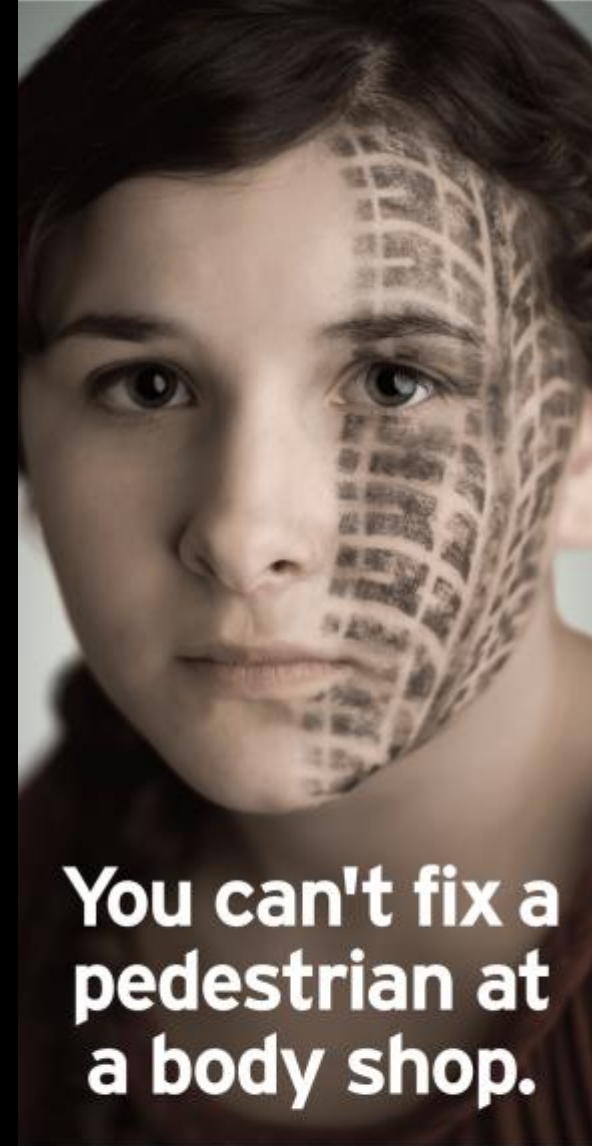
BE SAFE. DRIVE SMART. 
#EndTheStreakTX



**Pedestrians
don't come
with airbags.**

Yield the right of way
to pedestrians.

BE SAFE. DRIVE SMART. 
#EndTheStreakTX

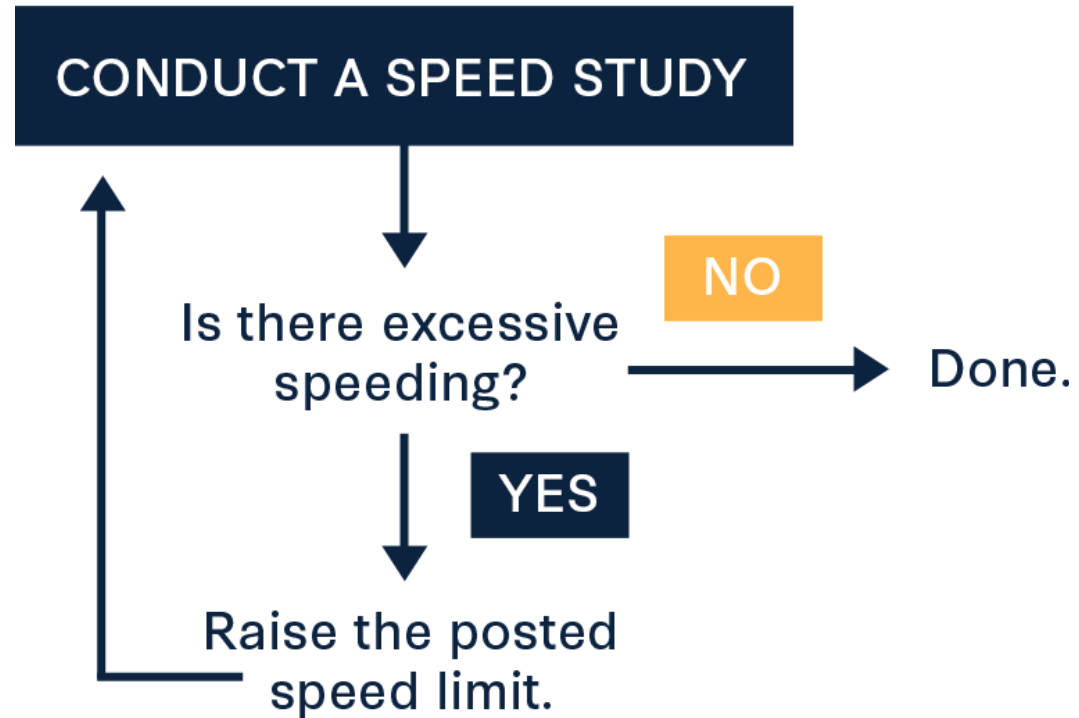


**You can't fix a
pedestrian at
a body shop.**

Slow down and
watch for pedestrians.

BE SAFE. DRIVE SMART. 
#EndTheStreakTX

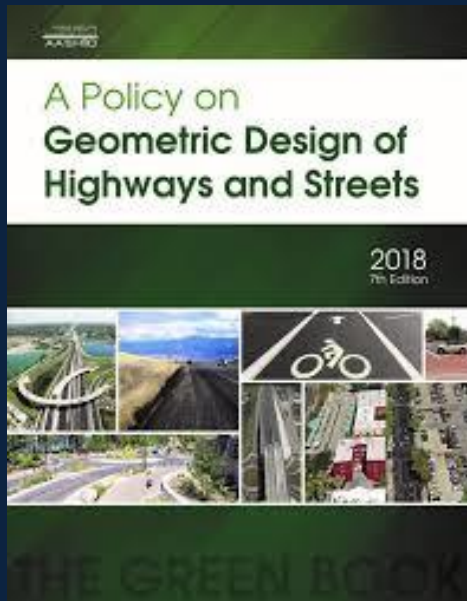
Standard Engineering Approach

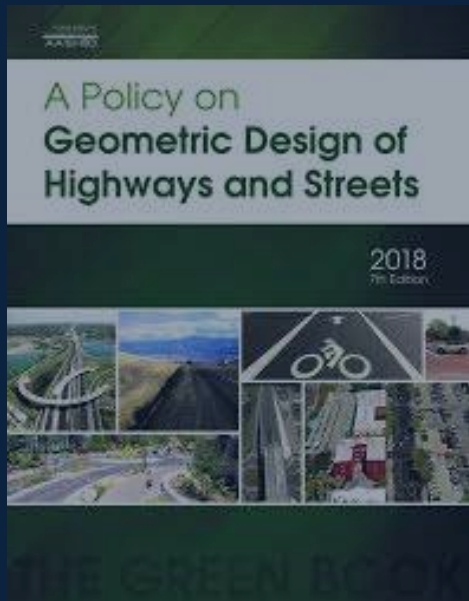


If you need a sign to tell people to slow down...

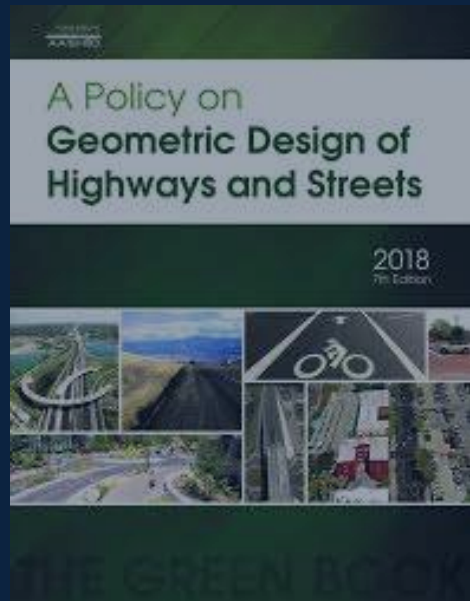


...you designed your street wrong.





SAFETY



SAFETY

Engineer's Priorities

SPEED

VOLUME

SAFETY

COST





Engineer

Society

**SPEED
VOLUME
SAFETY
COST**

Engineer

SPEED

VOLUME

SAFETY

COST

Society

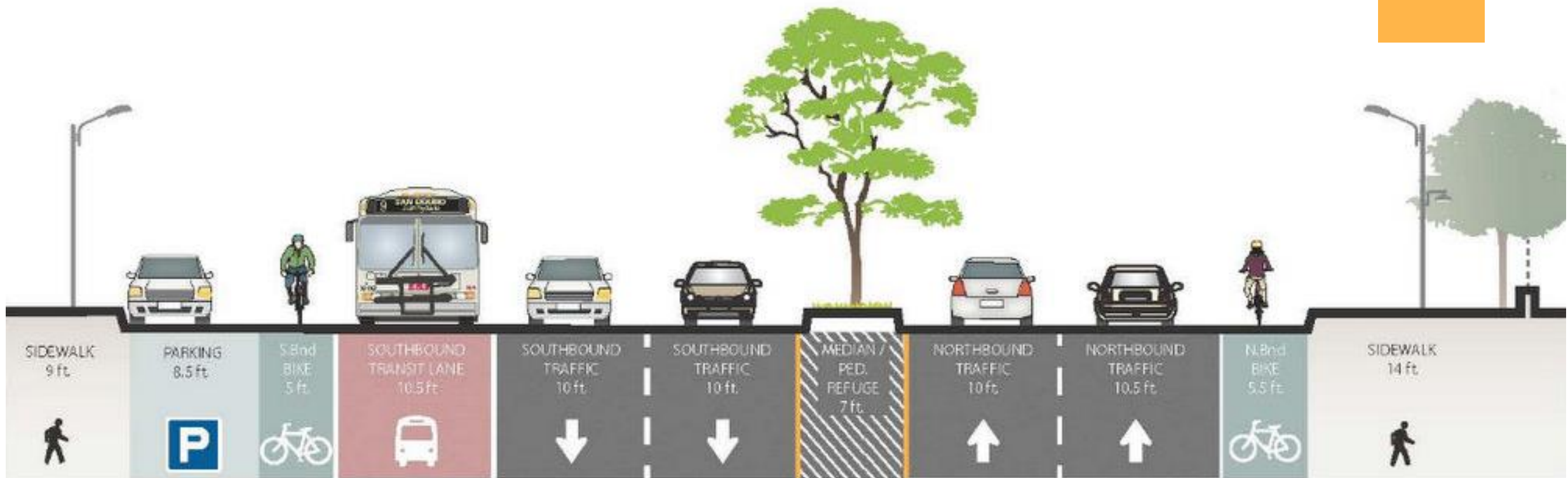
SAFETY

COST

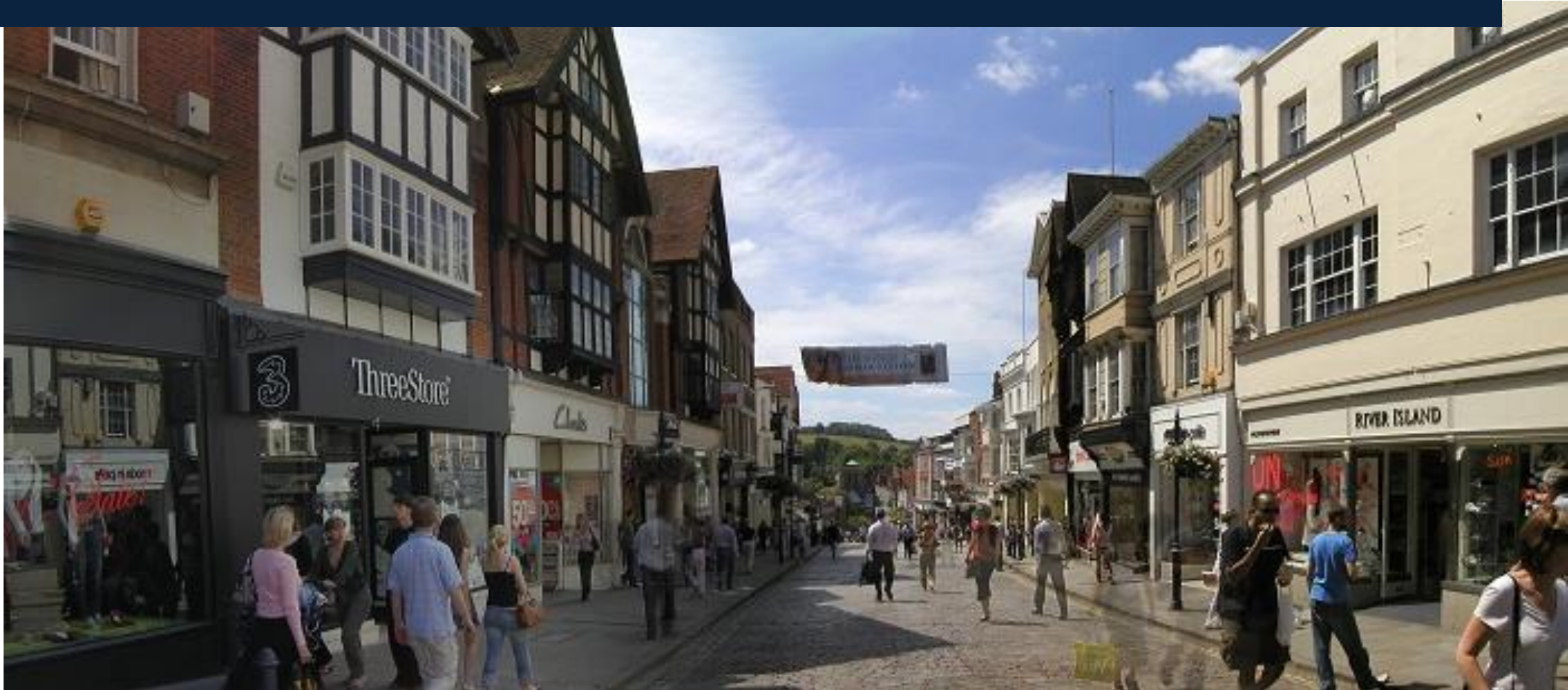
VOLUME

SPEED

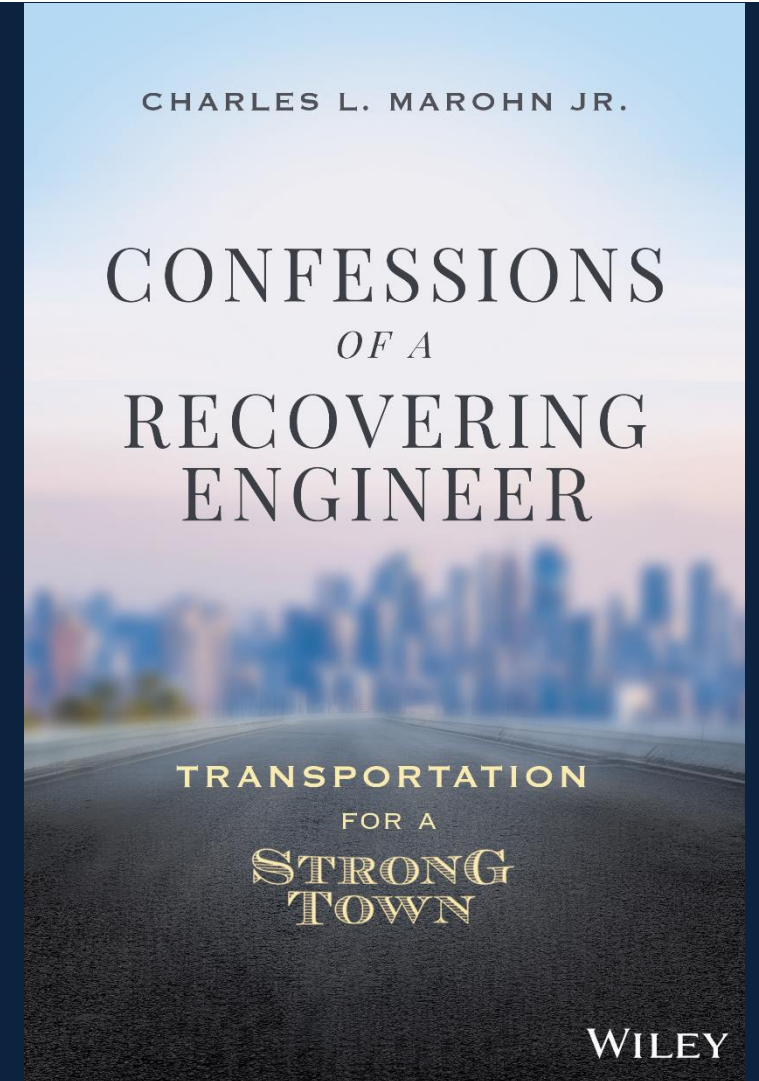
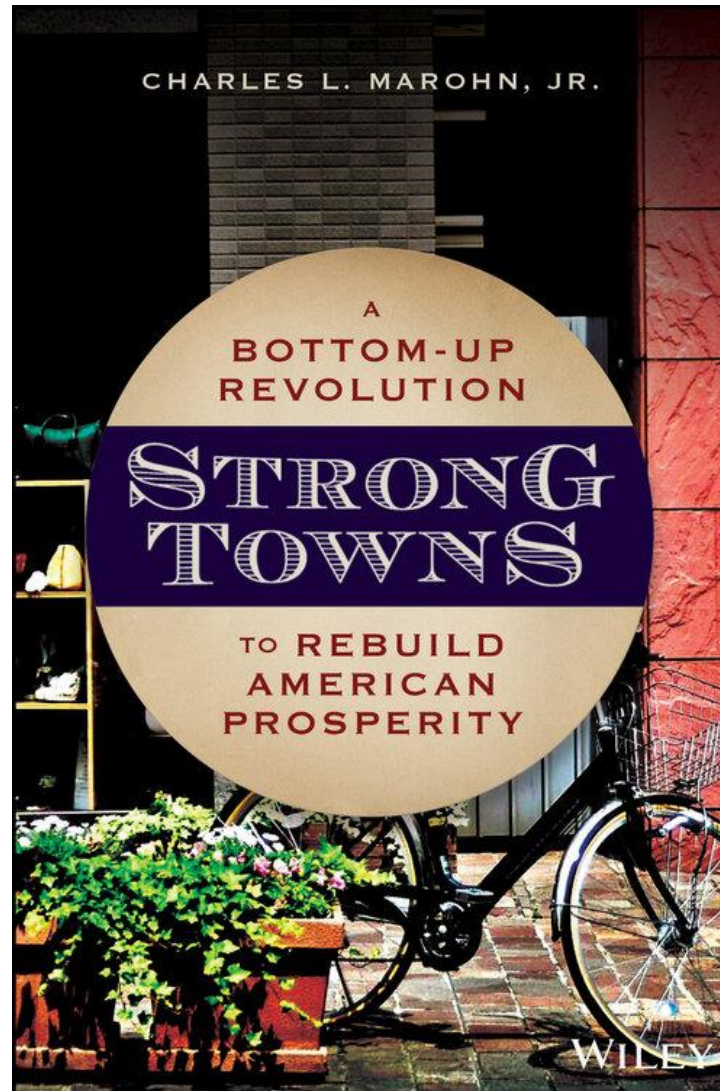
Complete Streets accommodate pedestrians within an auto-dominated environment.



Strong Towns accommodate automobiles within an environment dominated by people.



More on the Strong
Towns Approach





www.strongtowns.org



**A BOTTOM-UP REVOLUTION TO REBUILD
AMERICAN PROSPERITY**