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University of Virginia

**ULI San Antonio**

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Arterials into Thriving Places

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San Antonio

**Thursday, November 21, 2019**







from Lon Tinkle, *The Key to Dallas* (1965)



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## Dallas County Tries To Outlaw Walking

DALLAS, 40 — Dallas' gleaming new multi-million-dollar county courthouse has six elevators, two escalators and two staircases to move people around the 12 floors.

But one athletic-minded lawyer discovered that you're not supposed to use the stairs.

Commissioners said the stairs were included to satisfy the building code governing fire precautions. They are located at either end of the building and separated from the corridors by heavy doors.

The impatient attorney who preferred to walk rather than wait for one of the elevators found out the hard way — the stairs are rigged with a special lock that lets you enter from the corridor but won't let you out of the stairwell until you're on the ground floor.

The ground floor door, to complicate matters even more, has a lock which permits an exit from the stairwell into the open air but won't admit persons from the outside into the stairwell.

Commissioners explained that the stairwell was built to make use of the stairs unpopular unless the building is on fire.

Nobody told the lawyer about the sneaky lock and he entered the stairwell, walked down one flight and found himself locked in. He walked back up the stairs and found that door locked tight, too.

He pounded the door and yelled. Thirty minutes later, his cries were heard and the door was opened.

"He should have waited for the elevator like everyone else," a commissioner said.



## PHYSICAL ACTIVITY, ALL-CAUSE MORTALITY, AND LONGEVITY OF COLLEGE ALUMNI

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**Abstract** We examined the physical activity and other life-style characteristics of 16,936 Harvard alumni, aged 35 to 74, for relations to rates of mortality from all causes and for influences on length of life. A total of 1413 alumni died during 12 to 16 years of follow-up (1962 to 1978). Exercise reported as walking, stair climbing, and sports play related inversely to total mortality, primarily to death due to cardiovascular or respiratory causes. Death rates declined steadily as energy expended on such activity increased from less than 500 to 3500 kcal per week, beyond which rates increased slightly. Rates were one quarter to one third lower among alumni expending 2000 or more

kcal during exercise per week than among less active men. With or without consideration of hypertension, cigarette smoking, extremes or gains in body weight, or early parental death, alumni mortality rates were significantly lower among the physically active. Relative risks of death for individuals were highest among cigarette smokers and men with hypertension, and attributable risks in the community were highest among smokers and sedentary men. By the age of 80, the amount of additional life attributable to adequate exercise, as compared with sedentariness, was one to more than two years. (N Engl J Med 1986; 314: 605-13.)

IMPROVED nutrition, reduced mortality from infectious diseases, and modification of some adverse personal characteristics, such as the cigarette habit, are accepted as having extended human longevity. The importance of adequate physical exercise to cardiovascular health is becoming appreciated, yet there is a longstanding debate about whether exercise also extends longevity.<sup>1-6</sup> To assess influences on length of life, we examined the relations of life-style elements to mortality from all causes among 16,936 Harvard alumni aged 35 to 74 who were initially free of clinically recognized coronary heart disease. Earlier studies in this population had shown that the risk of coronary heart disease was affected significantly by histories of hypertension, cigarette smoking, overweight for height, and habitual physical inactivity.<sup>7,8</sup> We then studied whether exercise could be shown to delay all-cause mortality in this population. The thesis that exercise does in fact add extra years to life is examined in this continuing study of ways of living and health among Harvard College alumni.

## METHODS

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In studying the influence of other personal characteristics as continuous variables (e.g., cigarette smoking, body weight in relation to height, and weight change since college), break points were chosen to provide three levels or categories that might reveal any gradient risk of death. Mortality rates were computed for the follow-up interval by the indirect method, using 213,716 man-years of observation for the total population as standard, with adjustment for age differ-



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Using the stated level of 28 kcal of energy expenditure for climbing 70 stairs, it is necessary to climb 5000 stairs per week to reach the energy-expenditure threshold for greatest longevity (2000 kcal per week). At 22 stairs between floors in our hospital, this amounts to about 228 flights of stairs per week, or 38 floors per day during a six-day work week.

To estimate the time required for this amount of stair climbing, we recruited 15 nonpatient volunteers from the halls of the hospital. The volunteers climbed 70 stairs at their usual pace and were timed with a stopwatch. The study population was predominantly male (70 percent) and was composed of physicians, nurses, and administrative personnel.

The mean ( $\pm$ SE) time spent climbing 70 stairs was  $36.6 \pm 5.1$  seconds, or approximately 2 stairs per second. Assuming a constant rate of stair climbing, it would take 2500 seconds (41.67 minutes) per week to expend 2000 kcal, or 36.11 hours per year. According to Table 4 in the article, the estimated added life for a man 35 years of age who expended 2000 kcal per week up to age 80, as compared with a sedentary man, is 2.51 years (916.2 days). Assuming that stair climbing is performed only while awake, and assuming an average waking period of 16 hours per day, it would require 101.6 days spent climbing stairs to gain 916.2 days in longevity, or a net gain of 814.6 days.

Next, we determined the net gain in longevity per unit of effort expended. With 814.6 days of net gain at 16 waking hours per day, there are 13,034 hours (782,040 minutes) of net gain. This gain requires 228 stories of stairs per week  $\times$  52 weeks per year  $\times$  45 years = 533,520 stories climbed. Dividing minutes gained by stories climbed to achieve this gain gives 1.47 minutes of waking life gained for each story climbed. At 22 stairs per story, each individual step increases waking life by about 4 seconds.

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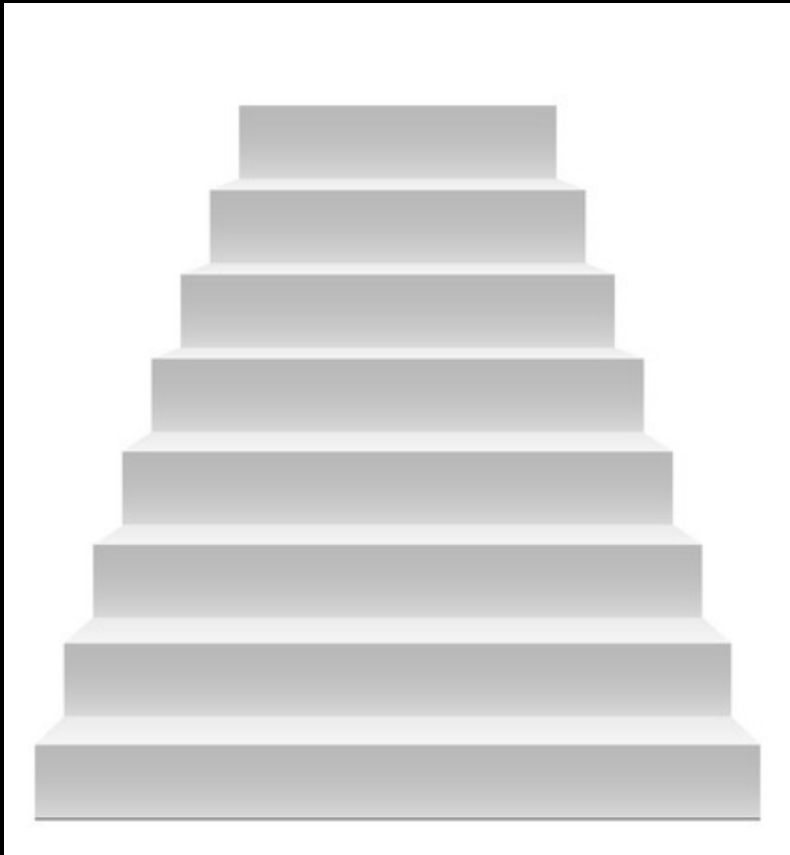
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Clearly, these calculations assume that our study group was similar to the Harvard alumni in the time they expended to climb stairs, that the rate of stair climbing is the same for a given person at all ages between 35 and 80, and that the predominant physical activity used to achieve 2000 kcal per week of energy expenditure is stair climbing. Although these assumptions are not totally valid, we thought it was useful to determine that climbing stairs is a time-effective method to increase longevity, and we recommend it to all hospital or other office workers, as not only a healthy but usually an expedient method of getting from one floor to another in the course of one's weekly tasks.

BRENT G. PETTY, M.D.  
DAVID M. HERRINGTON, M.D.  
Johns Hopkins University  
School of Medicine

Baltimore, MD 21205





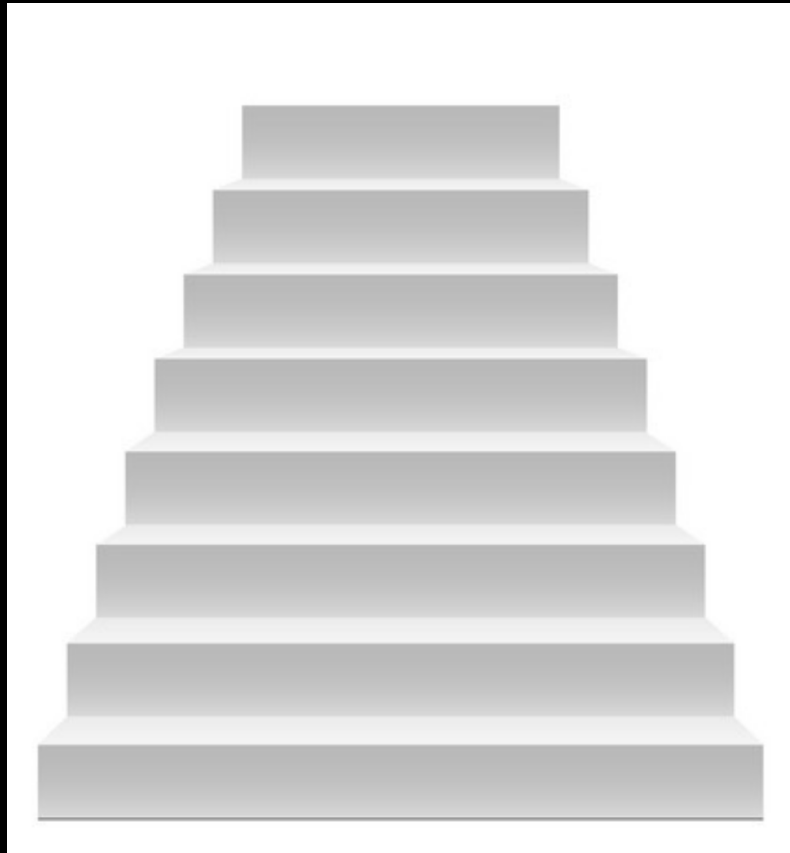
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**low tech**

**middle tech**

**high tech**

**future  
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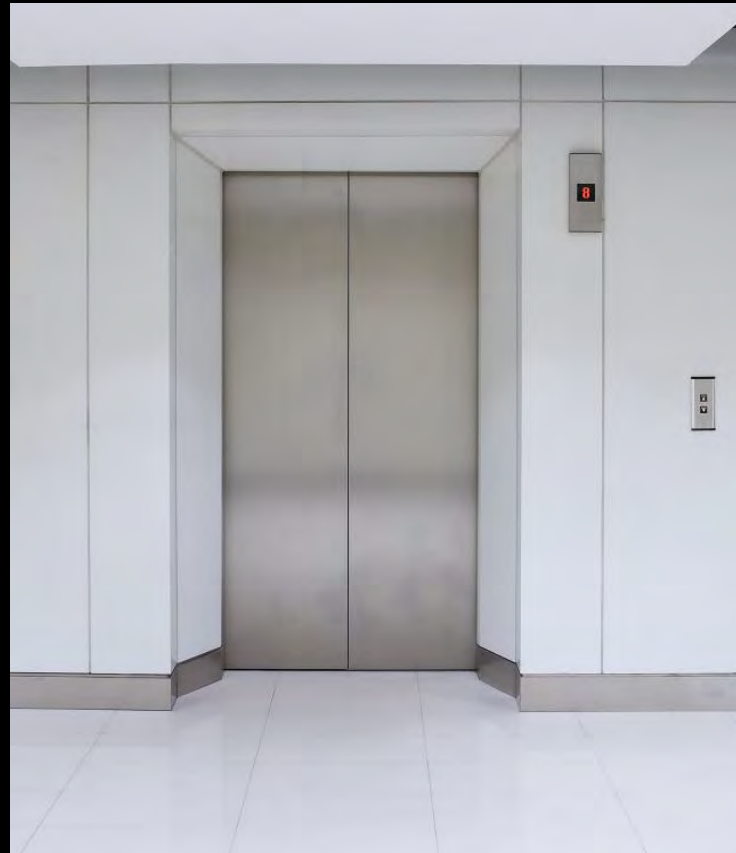
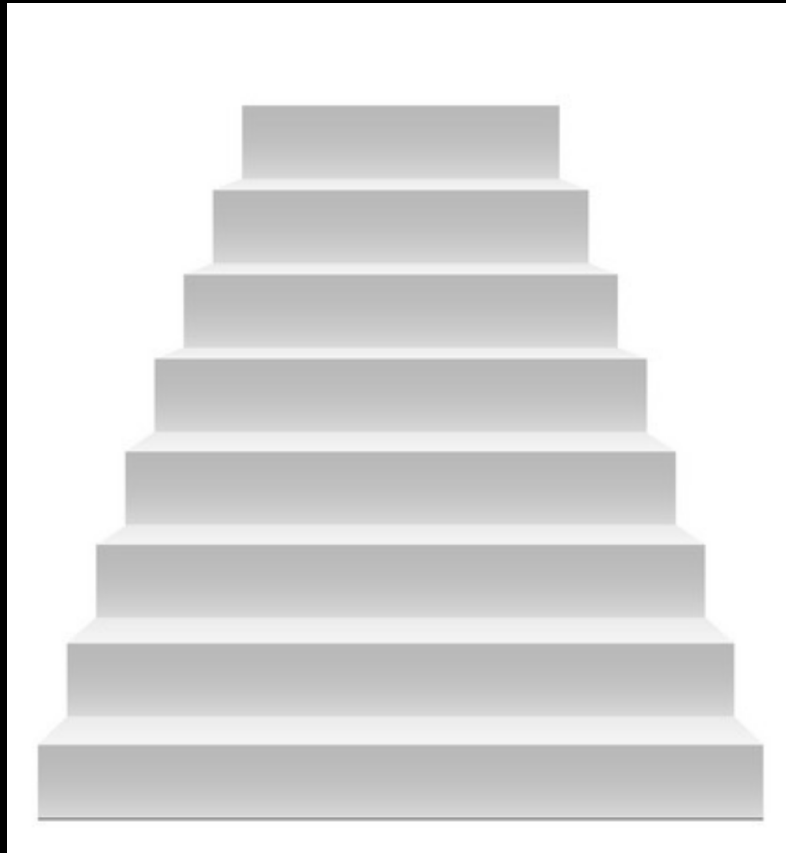
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**full-spectrum innovation**





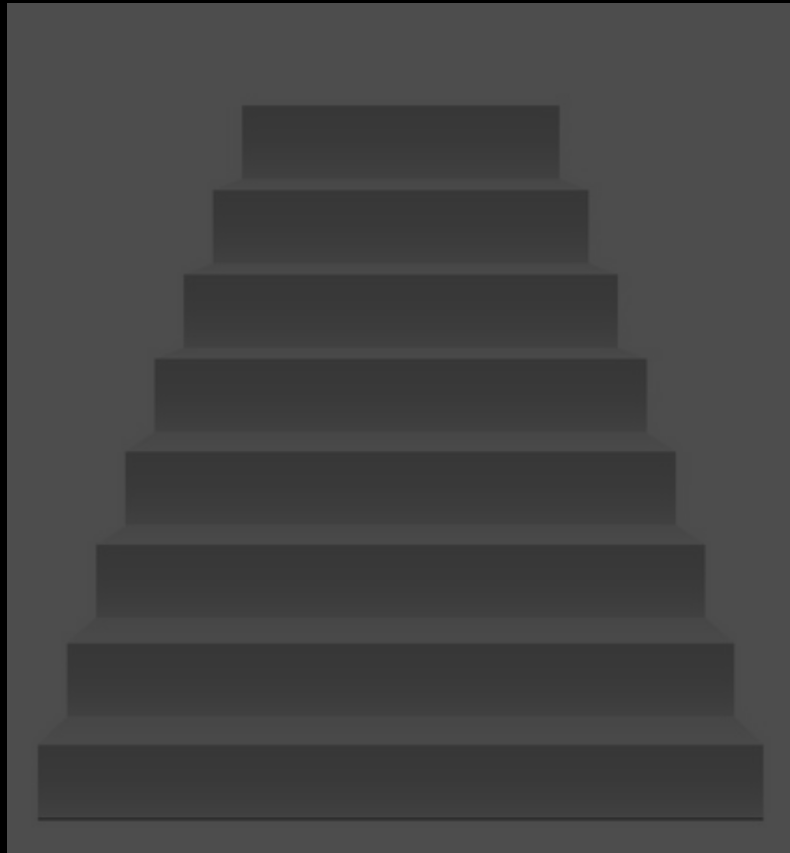
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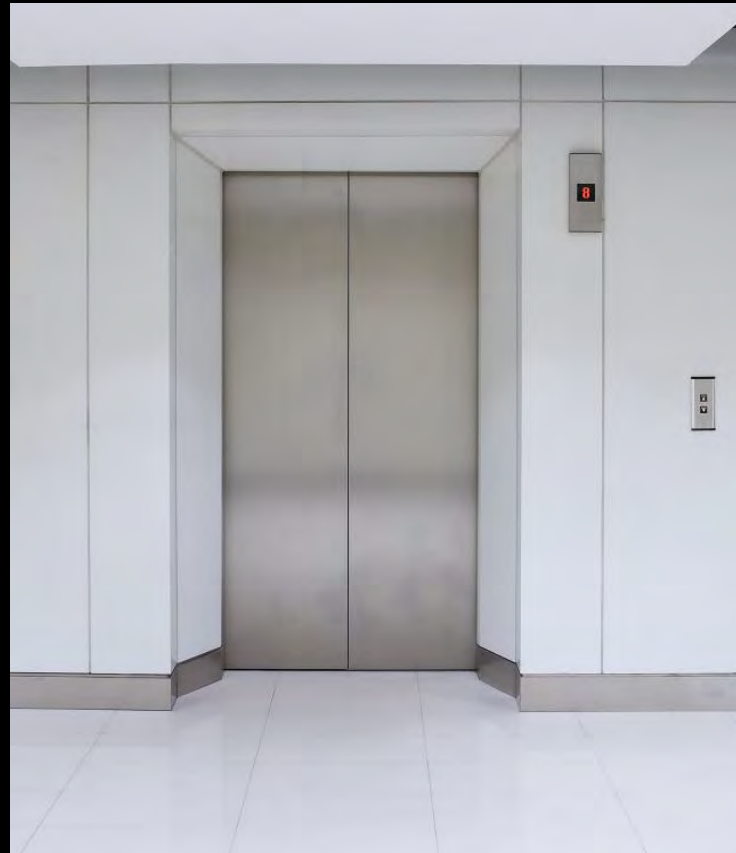
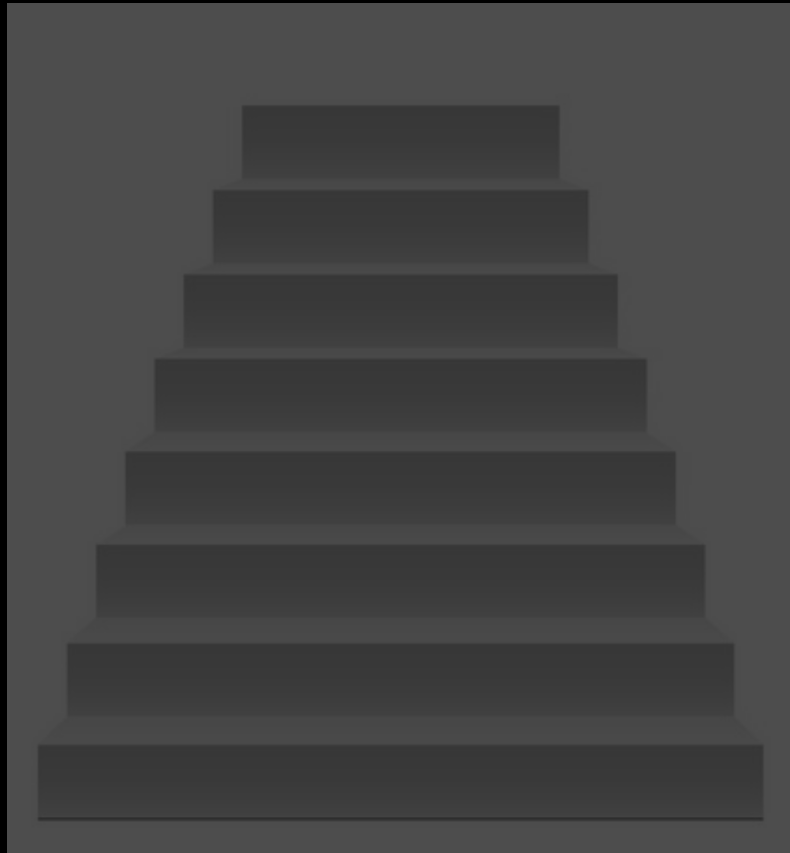
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**truncated innovation**





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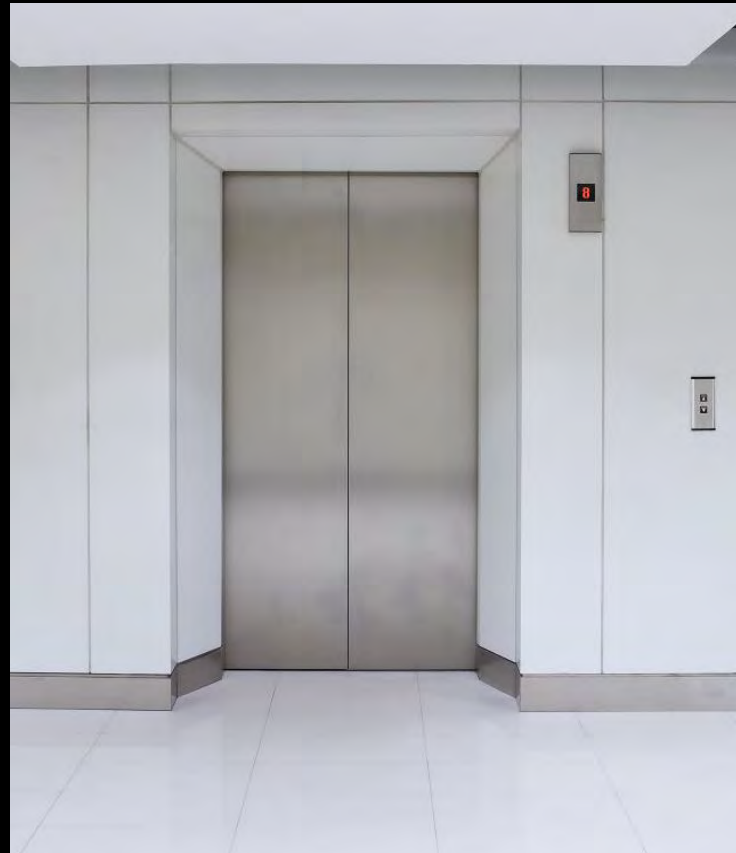
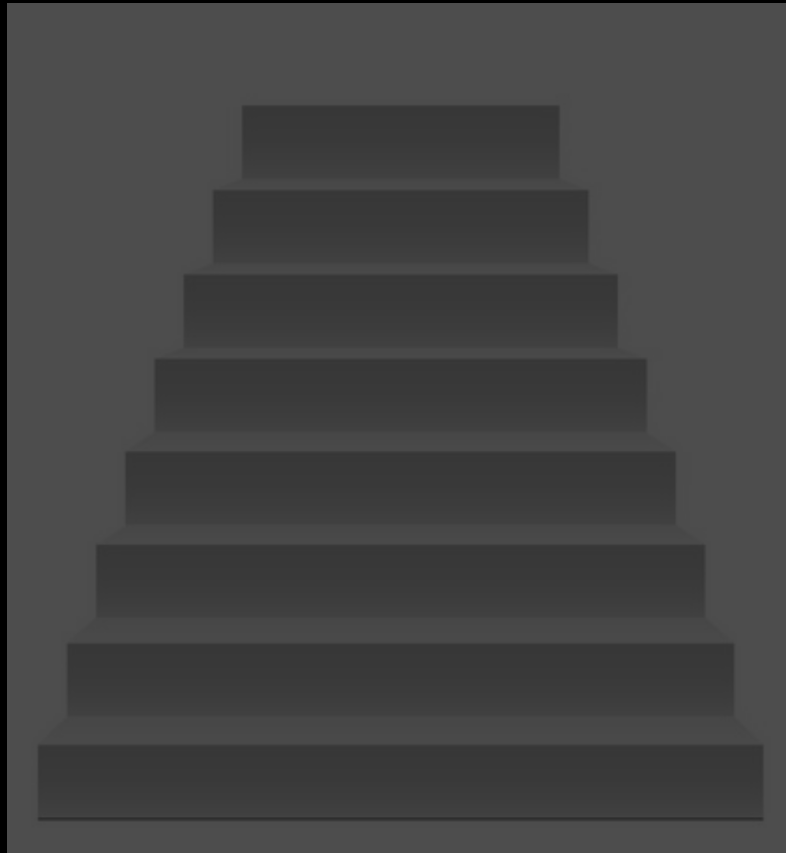
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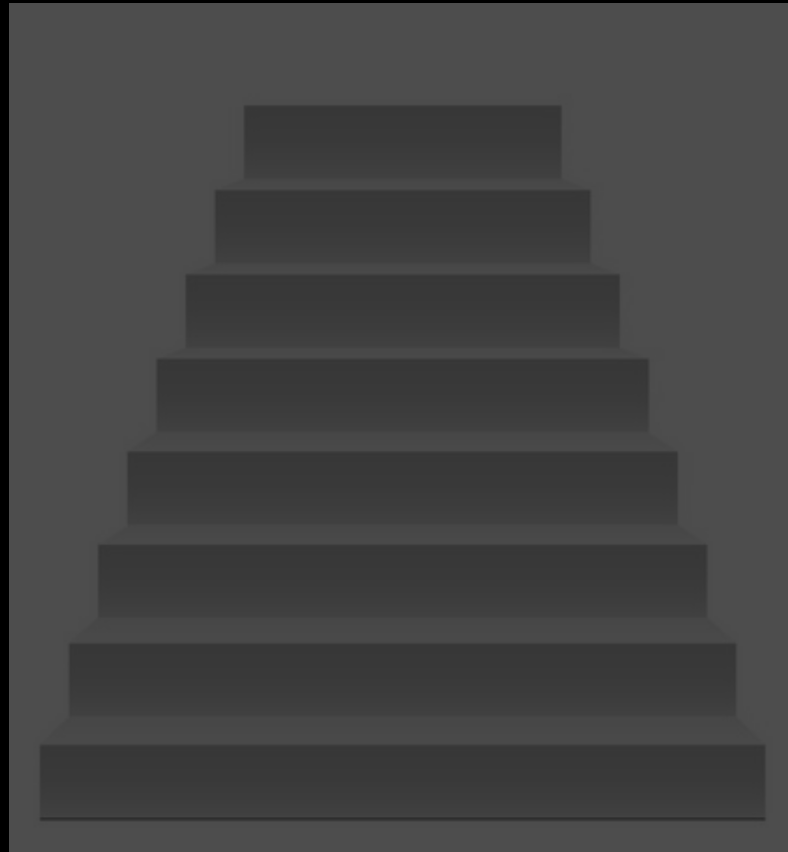
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**truncated innovation**





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**full-spectrum innovation**



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**full-spectrum innovation**





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**full-spectrum innovation**



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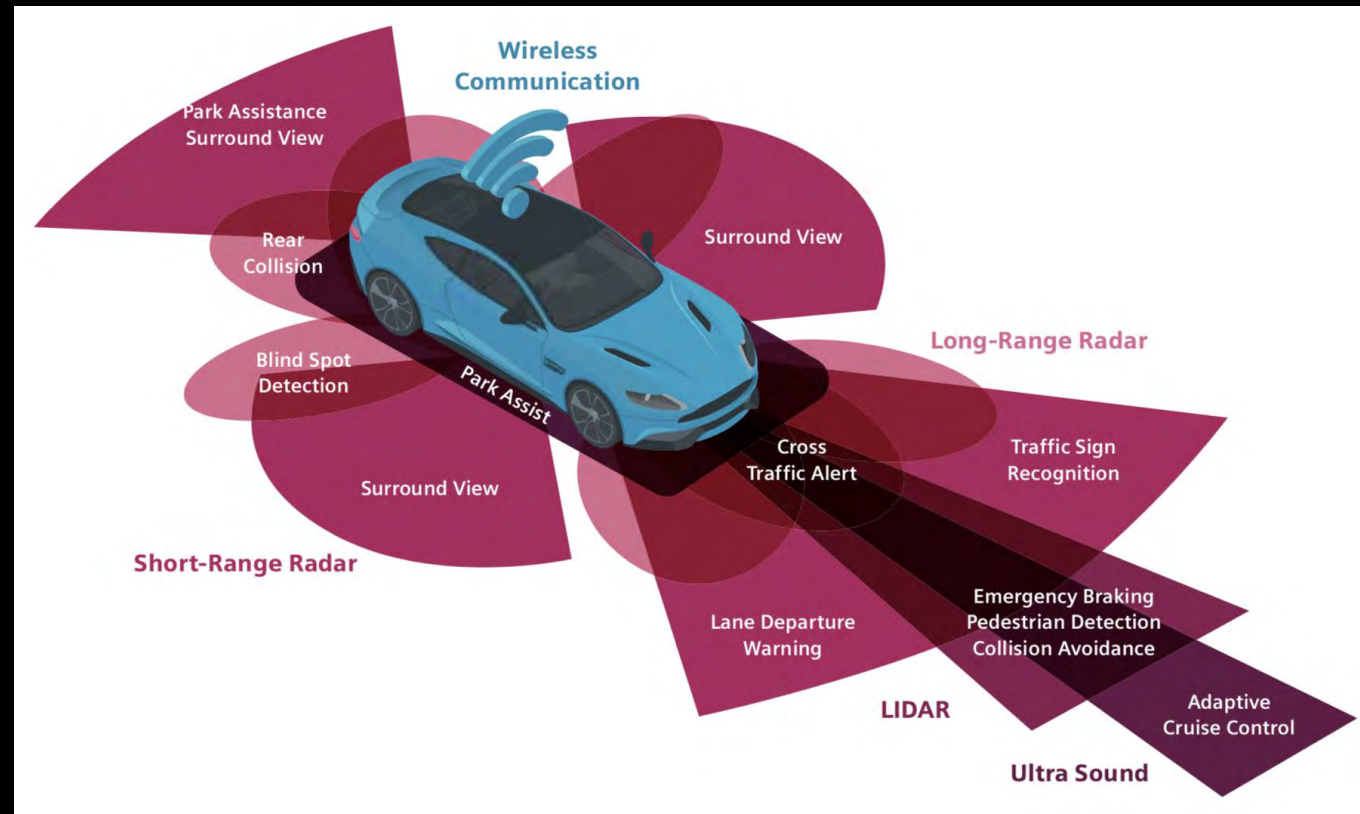
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**full-spectrum innovation**





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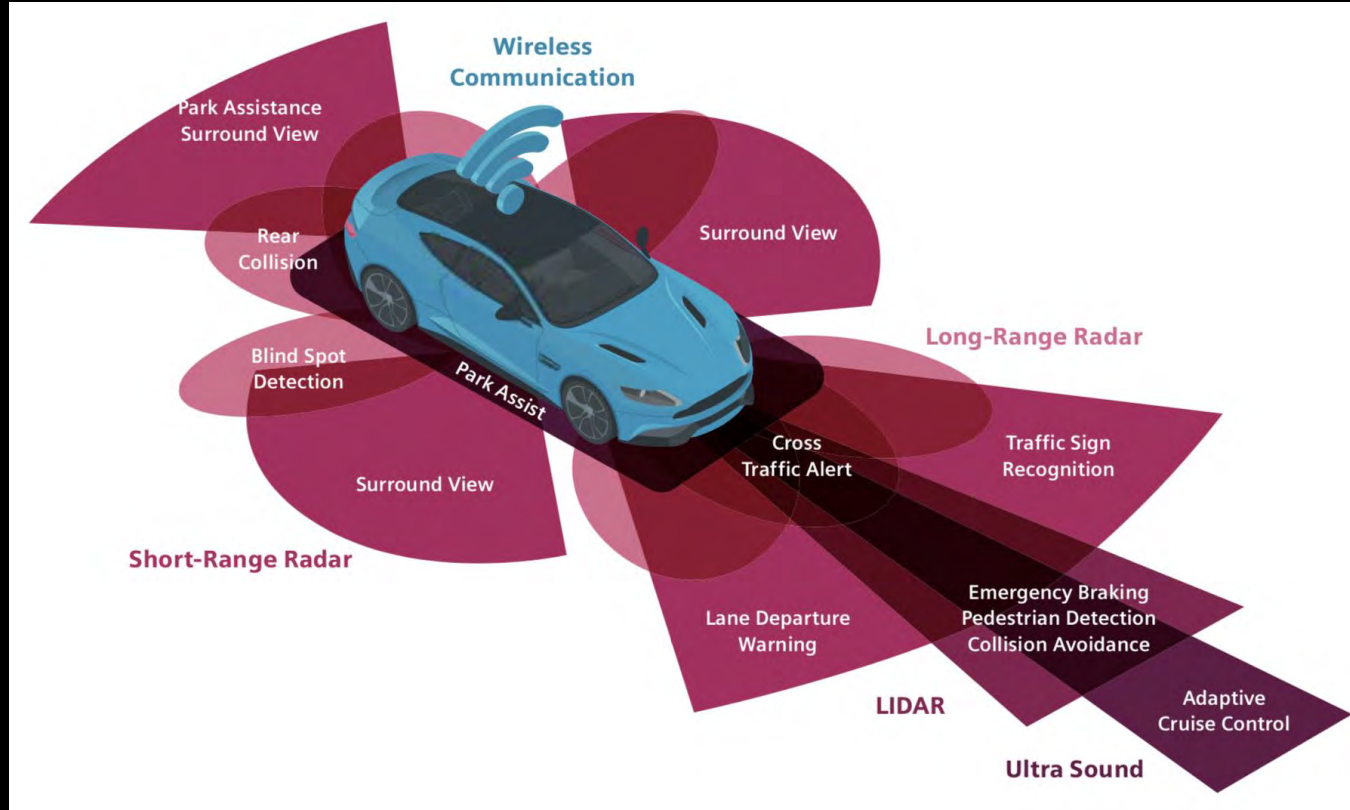
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## full-spectrum innovation



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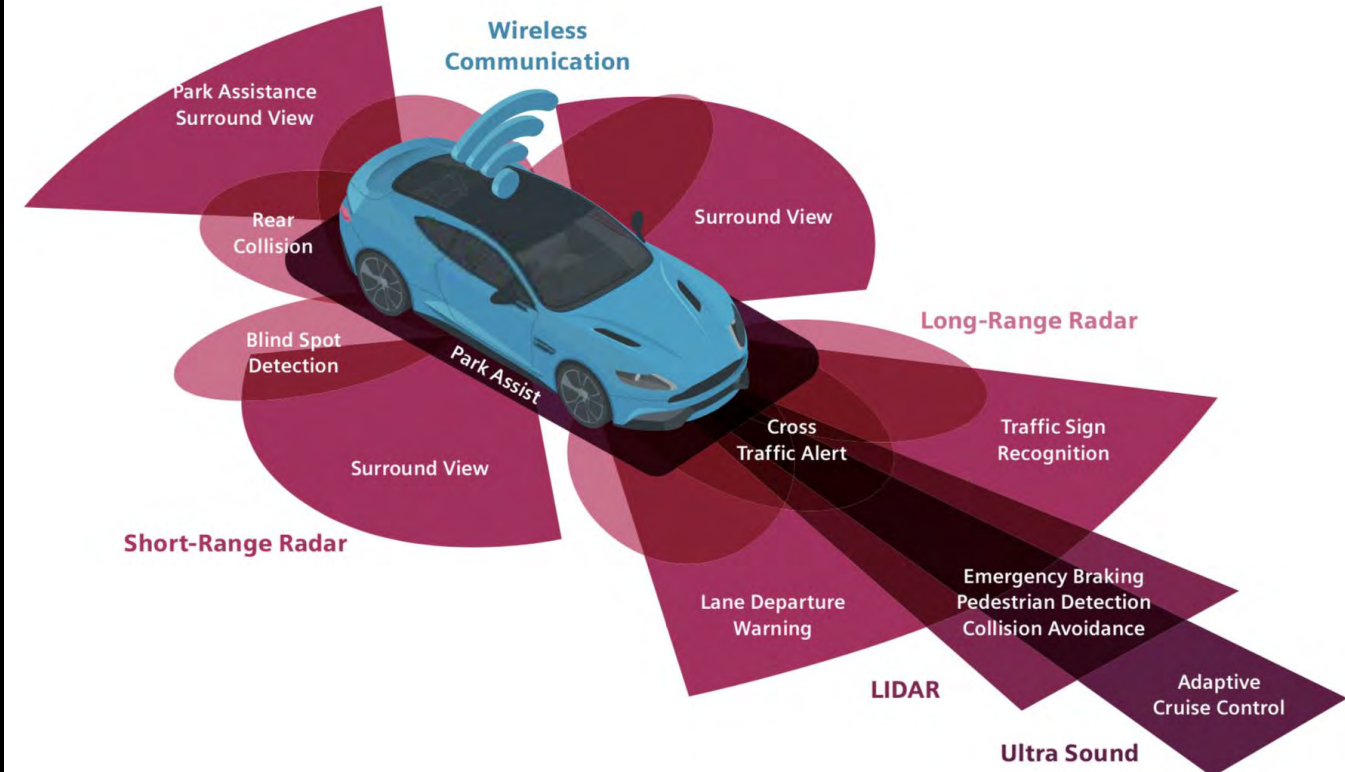
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## full-spectrum innovation



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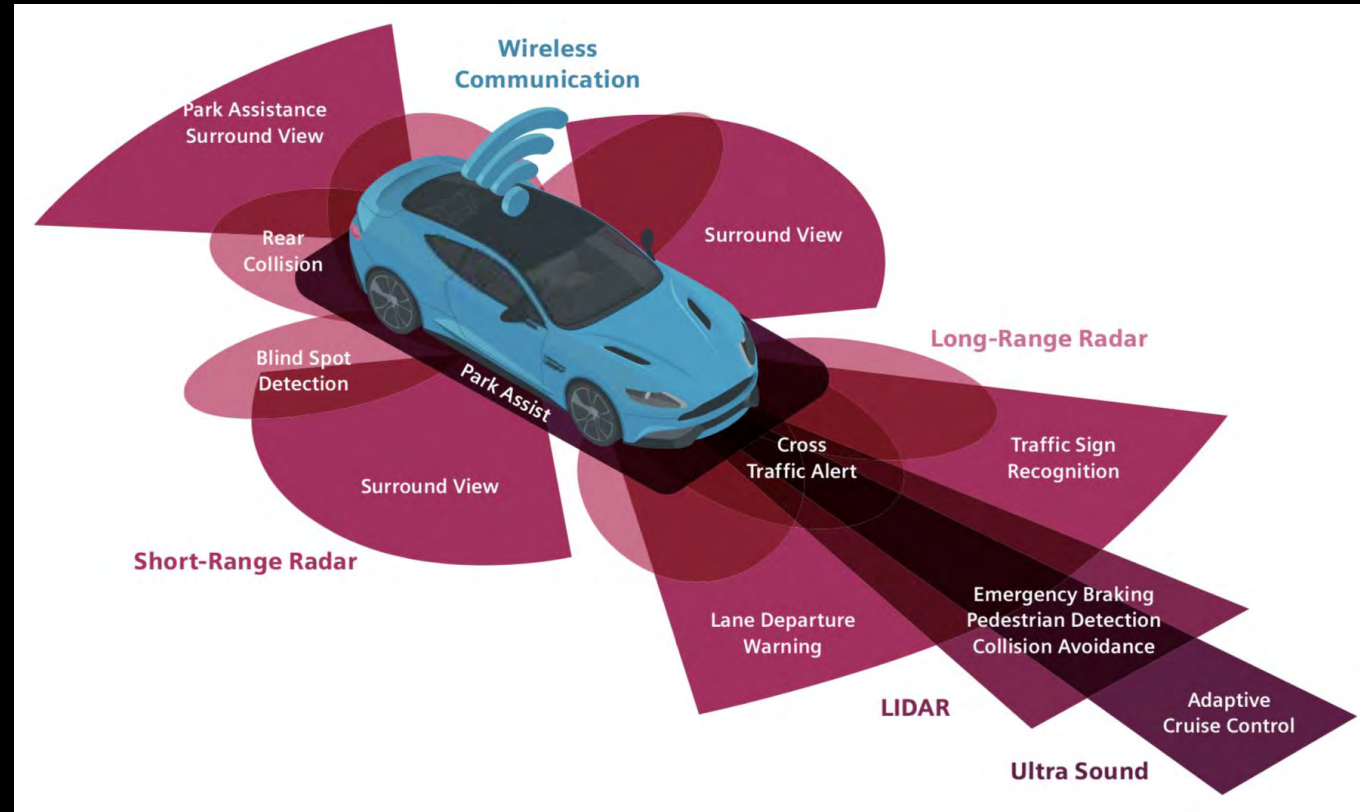
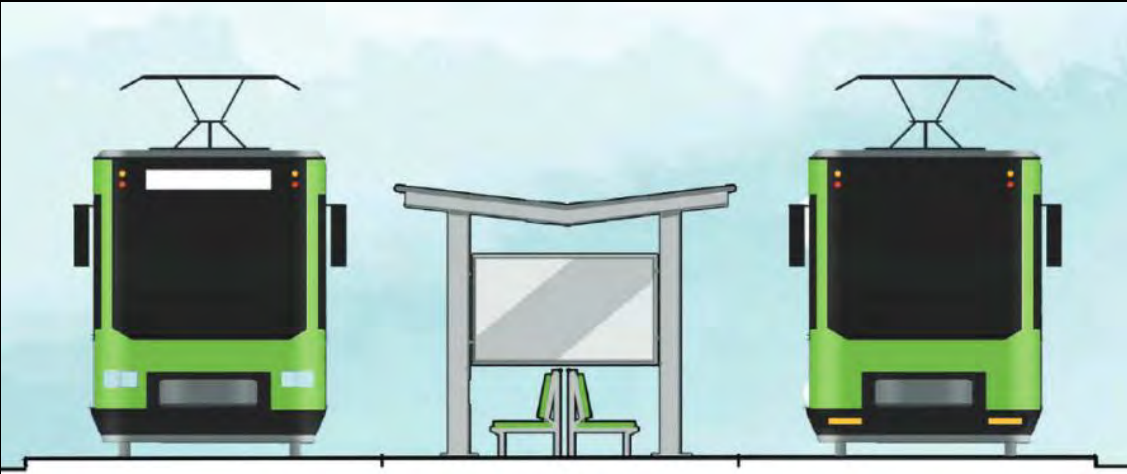
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**full-spectrum innovation**





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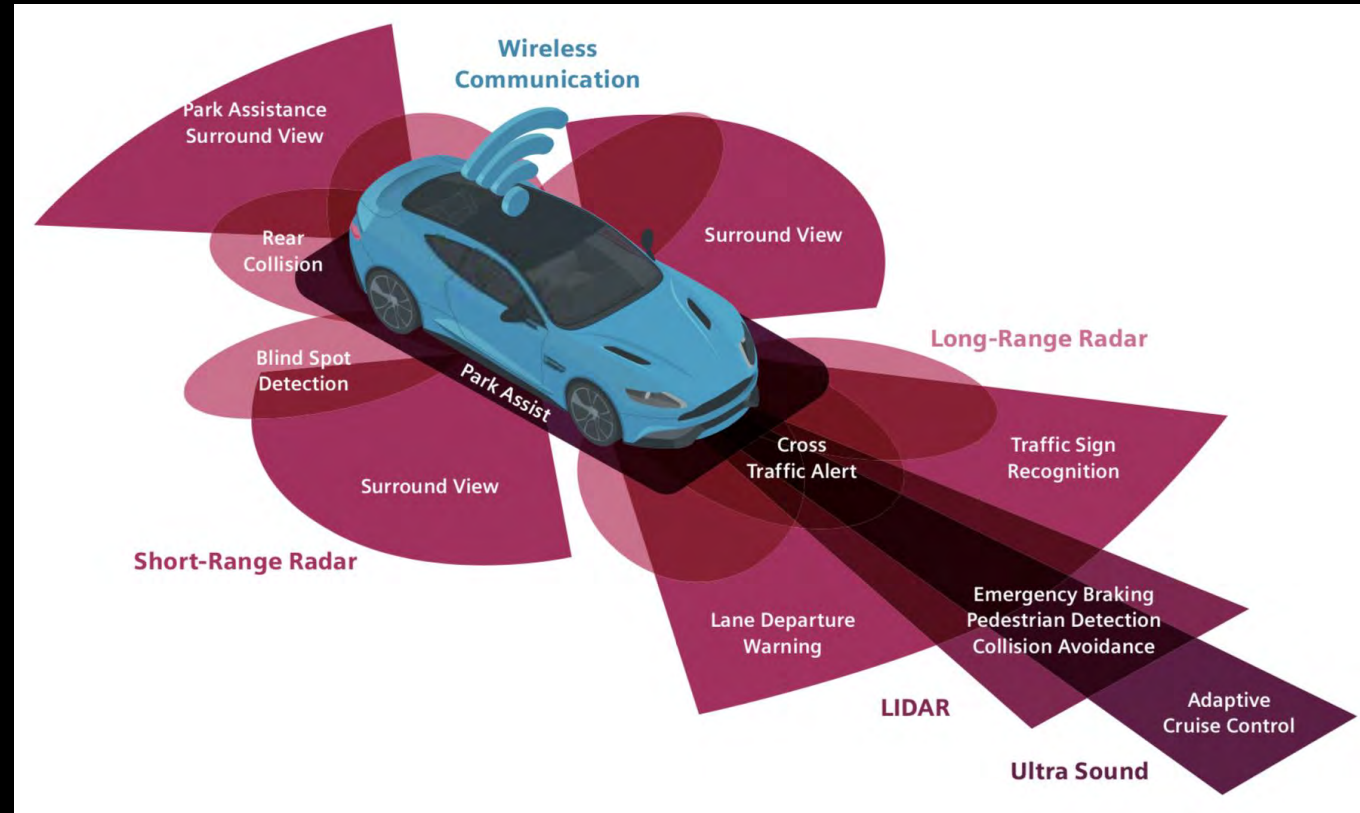
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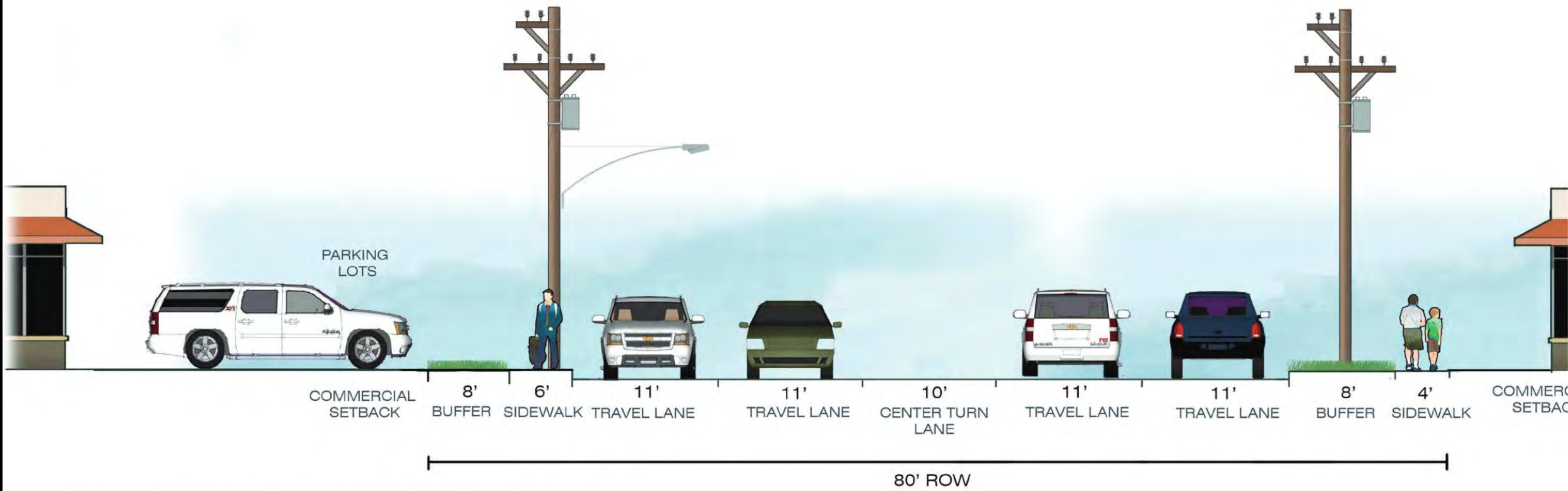




1

We don't know what people prefer.





SECTION : SAN PEDRO : HILDEBRAND - BASSE (EXISTING)

San Pedro Avenue, San Antonio (photo: Scott Ball / thank you to Bill Barker)







Sign in

Ricky's Autoplex

Fred Loya Insurance

MaxMart  
\$2.25/Regular

San Pedro Ave

ANB Financial

Clower

Clower

Olmos Park Auto Techs

Navigation controls including a compass, a 2D button, and zoom in (+) and zoom out (-) buttons.



430.92

**Case  
Study  
No. 4**

*Measures  
to  
Overcome  
Impediments  
to  
Bicycling  
and  
Walking*



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**National Bicycling  
And Walking Study**

430.92

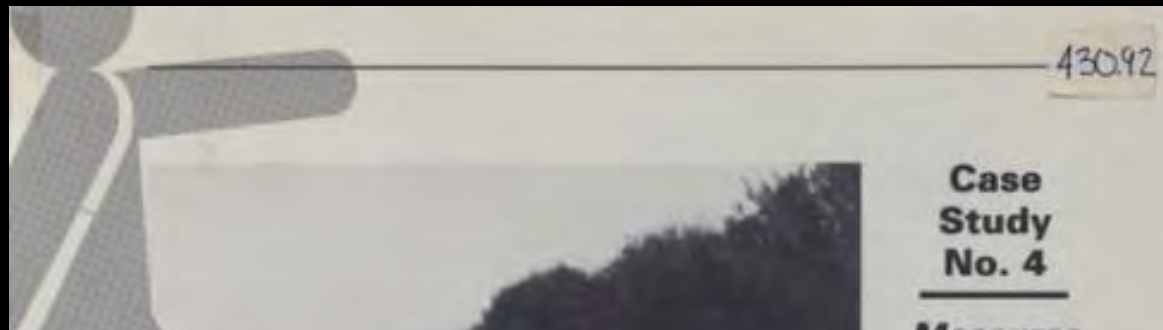
**Case  
Study  
No. 4**

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U.S. Department  
of Transportation  
**Federal Highway  
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**National Bicycling  
And Walking Study**



Statistics show that Americans prefer their automobiles to all other forms of transportation. Only in rare cases do alternative modes of transportation carry more than a small percentage of all trips.





43092

**Case  
Study  
No. 4**

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*Walking*



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**National Bicycling  
And Walking Study**



- ▶ 55% of Americans would prefer to drive less and walk more;





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our behavior illustrates a continued preference to drive.

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our behavior illustrates a continued preference to drive.

Philadelphia, January 3, 1970

Wynnefield and Bryn Maur Aves.

photo: Maurice M. Upton

Phila. Evening Bulletin

Temple Univ. Libraries







2

Health is more than safety.

GENERAL MOTORS



Zero Crashes.



2017  
Sustainability  
Report

● Zero Emissions.



Zero Congestion.





Zero Crashes.



2017  
Sustainability  
Report



Zero Emissions.



Zero Congestion.



TO OUR  
STAKEHOLDERS

General Motors Chairman and CEO Mary Barra

For more than a century, automobiles have driven our society and economy, giving us unprecedented mobility and transforming the way we work and live.

Today, we are in the midst of another revolution as groundbreaking technologies and evolving customer lifestyles transform our vehicles and how we use them.

At General Motors, our vision of a future with zero crashes, zero emissions and zero congestion addresses the challenges associated with the freedom of mobility. This bold, ambitious vision has the potential each year to save 1.25 million lives by eliminating human error, the root of more than 90 percent of crashes; eliminate over 2 billion tons of carbon dioxide; and give commuters back the week of time they spend in traffic.

Autonomous, electric, shared and connected vehicles will fuel this transformation. Each is leading-edge on its own. Combined, they will provide customers with safer, better and more sustainable vehicles.

Our journey to this future is underway. We have the right team, the right technology, the right partners and the global manufacturing scale to bring these innovative solutions to more customers, more quickly. And our strategy to transform GM into the world's most valued automotive company includes several major initiatives to lead this revolution.

#### Vehicles That Drive Themselves

Self-driving vehicles will reinvent our society, not only by reducing crashes and saving lives, but also by unlocking the power of mobility for those unable to drive.

General Motors is the only company with a fully integrated solution to produce self-driving vehicles at scale. With our 2017 acquisition of UDR developer Strobe, we now have every capability—from simulation and mapping software to safety validation and autonomous vehicle (AV)-specific vehicle design—under one roof. And we've moved quickly, developing three generations of self-driving vehicle technology in just 14 months.

After more than a year of building test vehicles, we are shifting to build production versions at our Orion Assembly plant in Michigan. The Cruise AV, which is part of our plans to commercialize in a dense urban area in 2019, will be the first production-ready vehicle built from the ground up to operate safely without a driver, steering wheel, pedals or manual controls. It represents a significant milestone on our path to deploying self-driving vehicles next year.

In preparation, we filed a Safety Report and Safety Petition with the U.S. Department of Transportation in January 2018 to enable us to safely deploy our Cruise AV zero-emission, self-driving vehicle.

Last month, we further strengthened our plans to commercialize AV technology at large scale through a landmark deal with the SoftBank Vision Fund, the world's largest tech and ridesharing investor. SoftBank is investing \$2.25 billion and General Motors is investing \$1.1 billion in GM Cruise, a new, majority-owned subsidiary. With SoftBank as a partner, we gain a tech leader that shares our vision, believes in our long-term business model and appreciates our integrated approach to AV development. It also strengthens our ability to attract high-tech talent, which is vital to our success.





Zero Crashes.



2017  
Sustainability  
Report



Zero Emissions.



Zero Congestion.



## TO OUR STAKEHOLDERS

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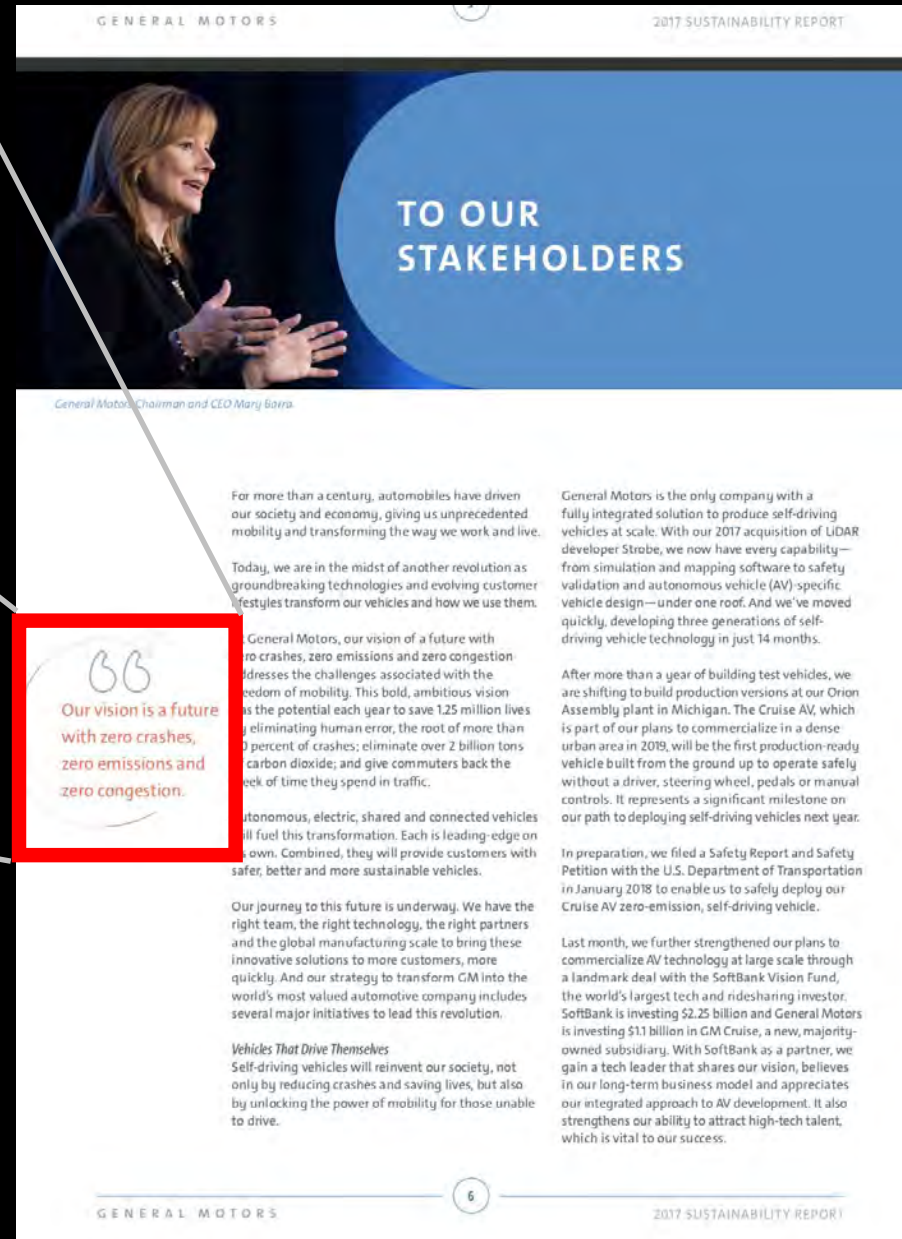
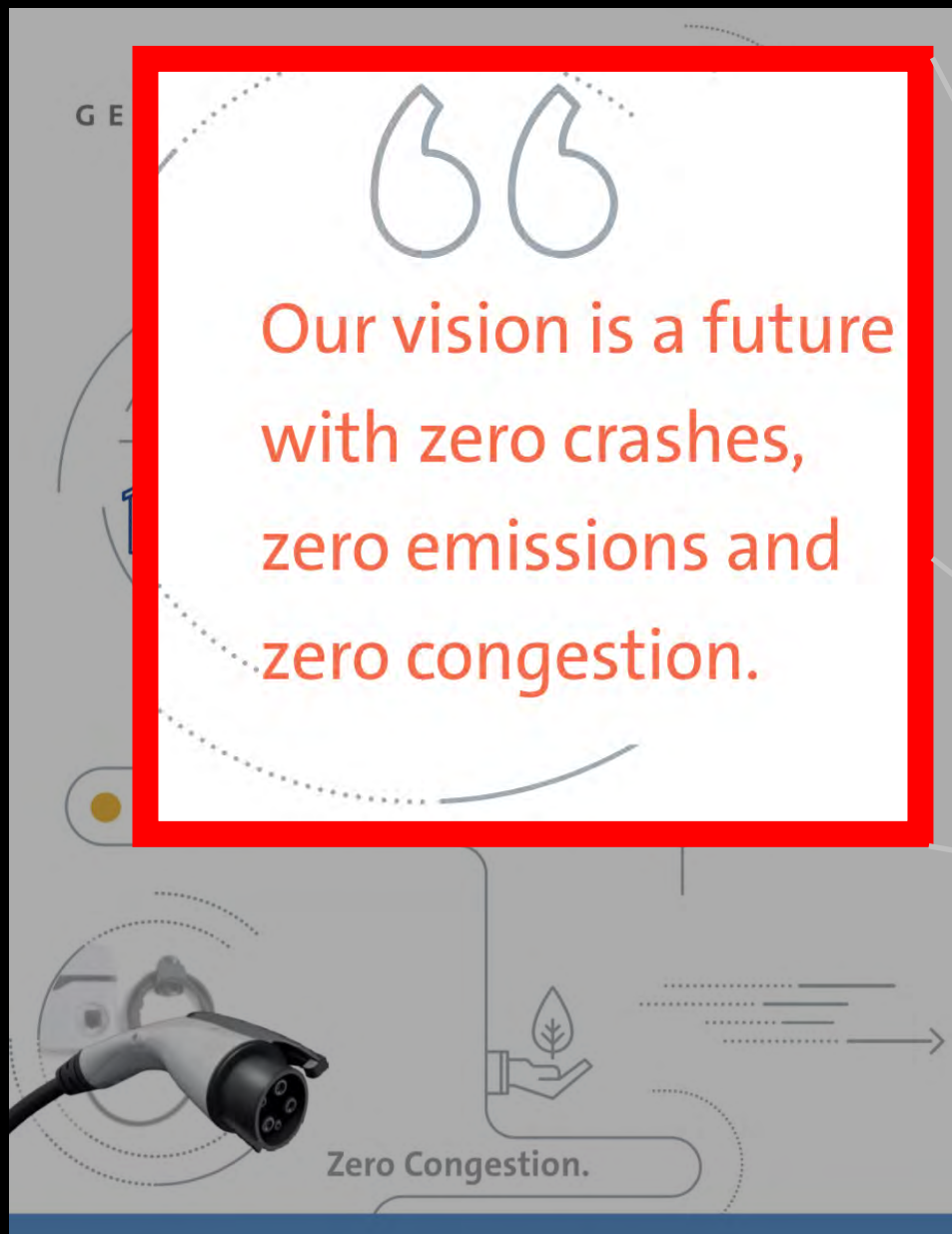
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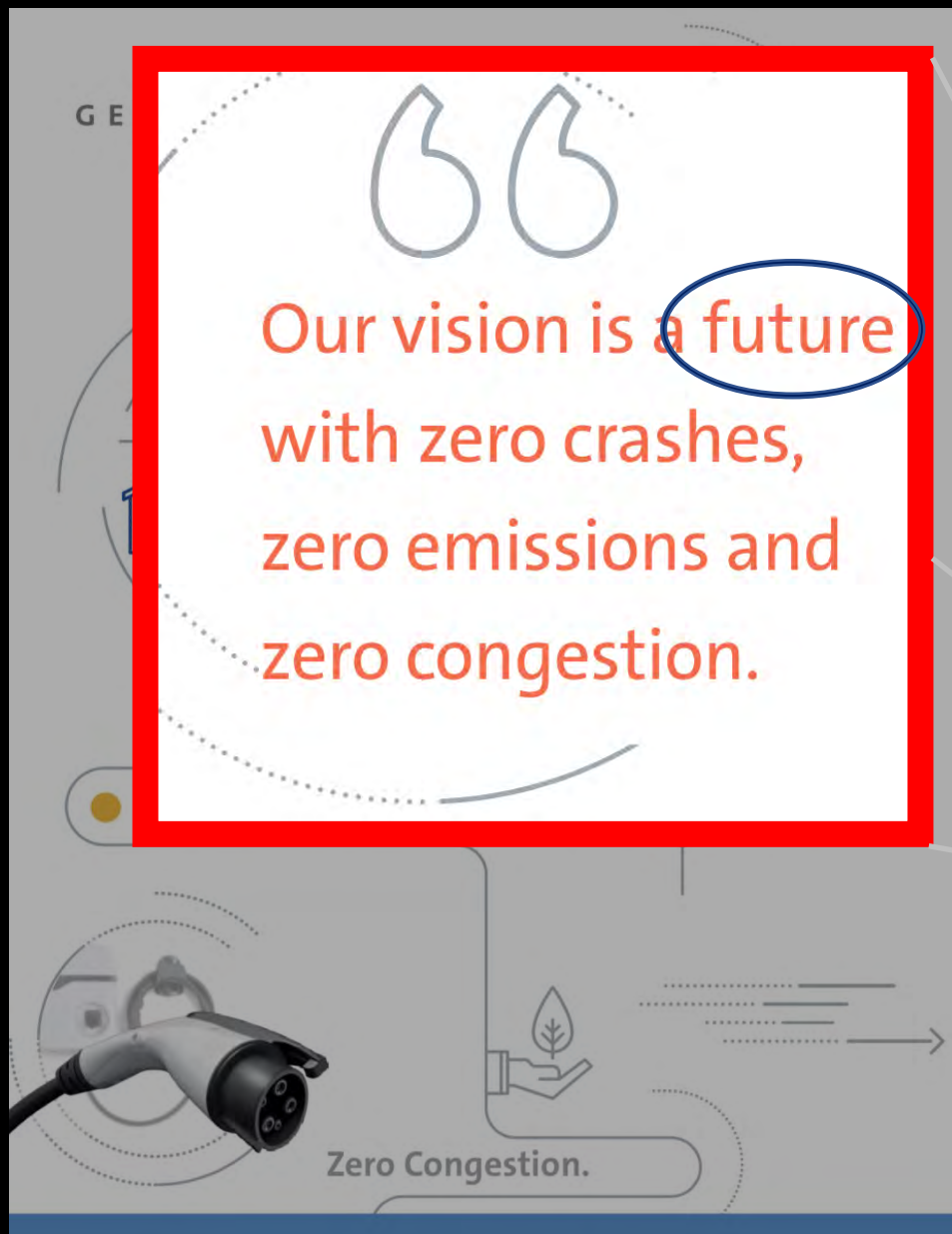
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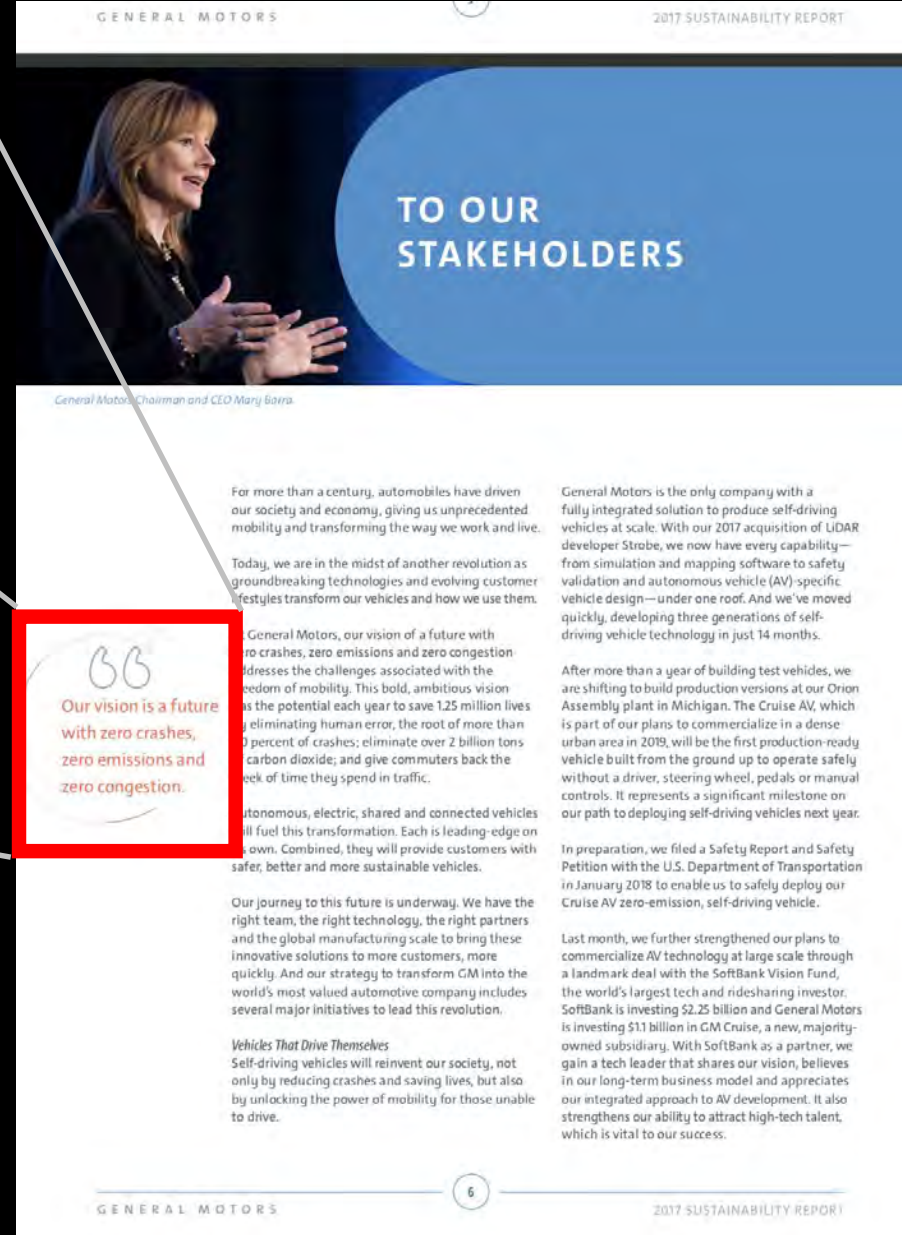
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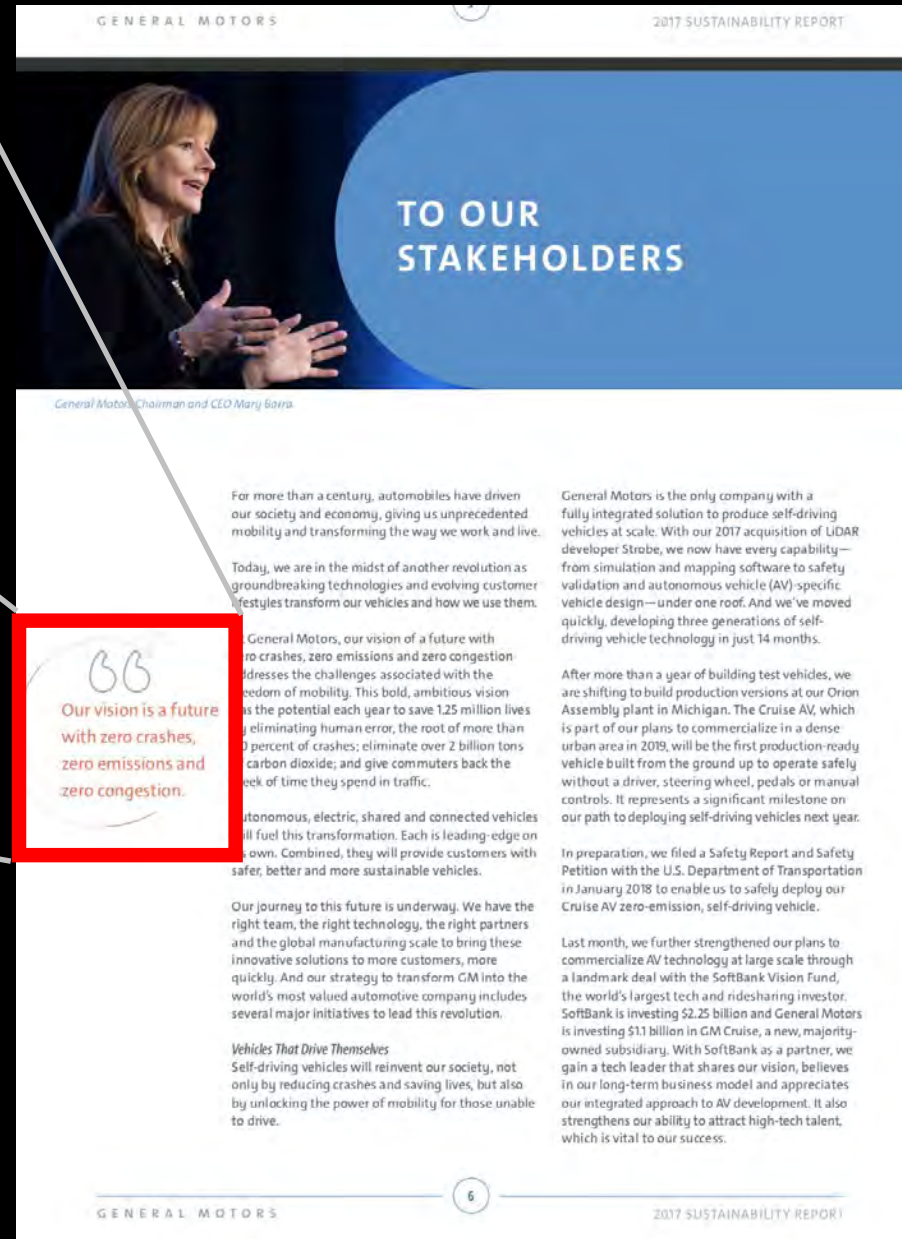
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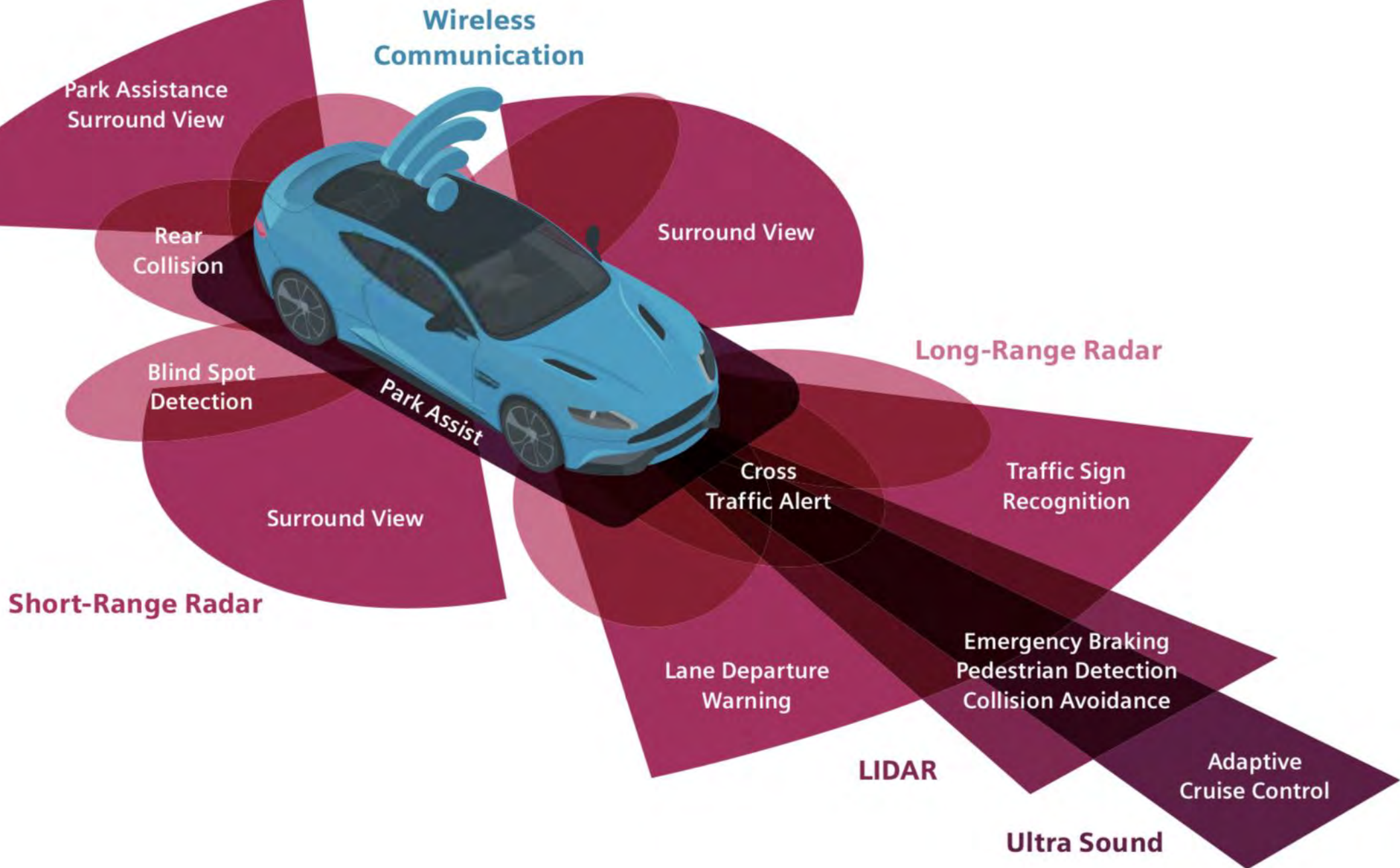


Figure 4. Age-adjusted death rates for the 10 leading causes of death: United States, 2016 and 2017

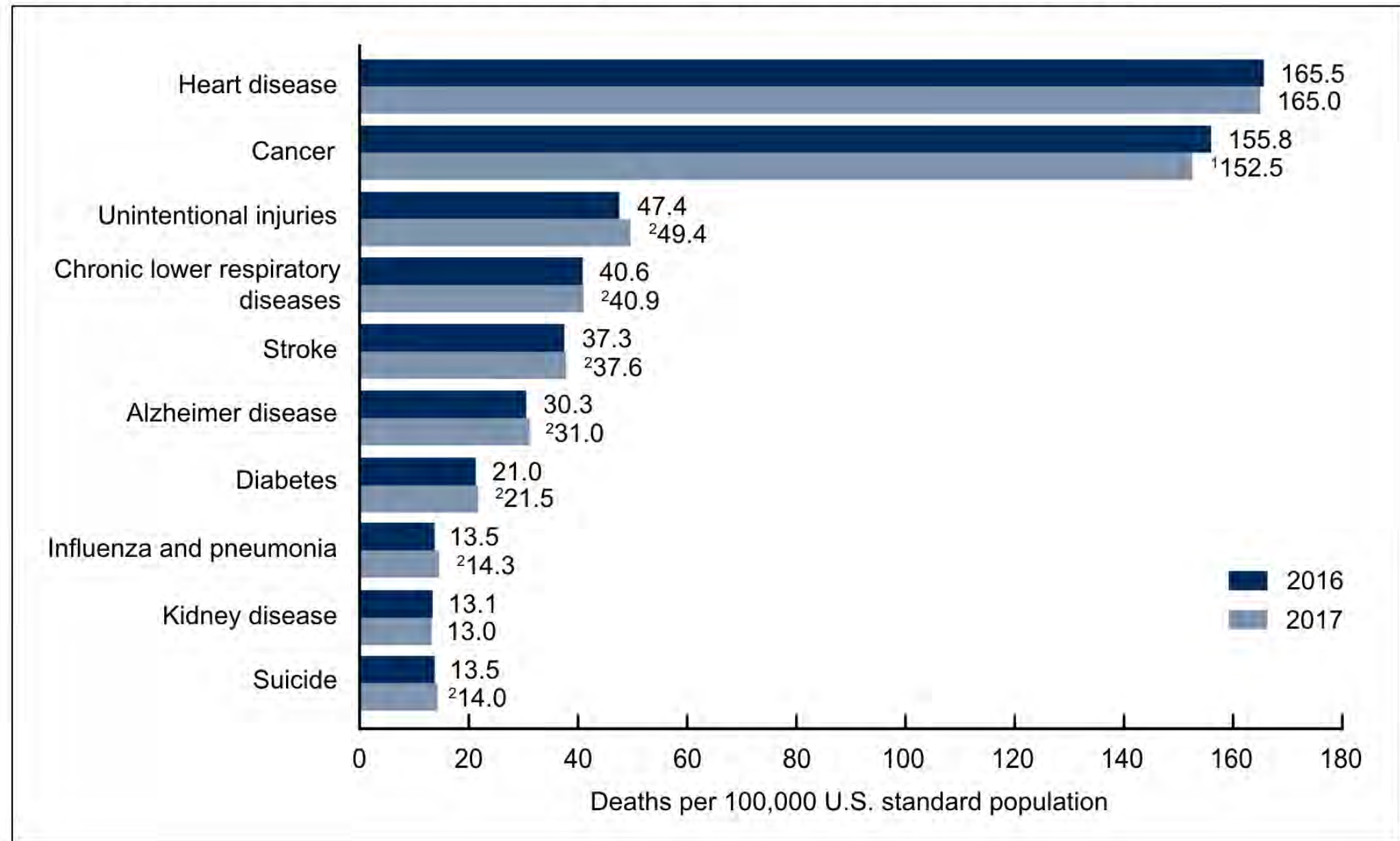
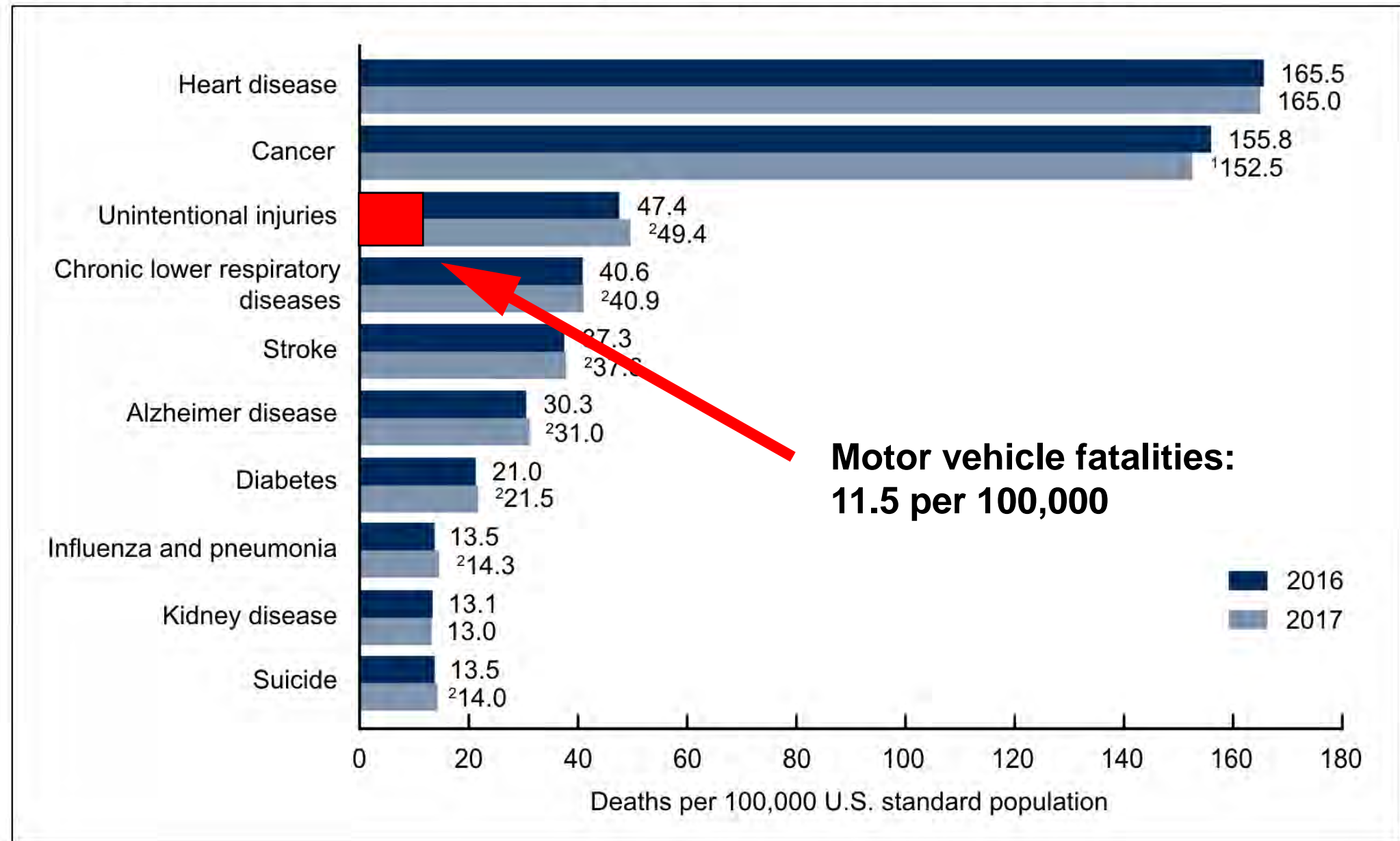
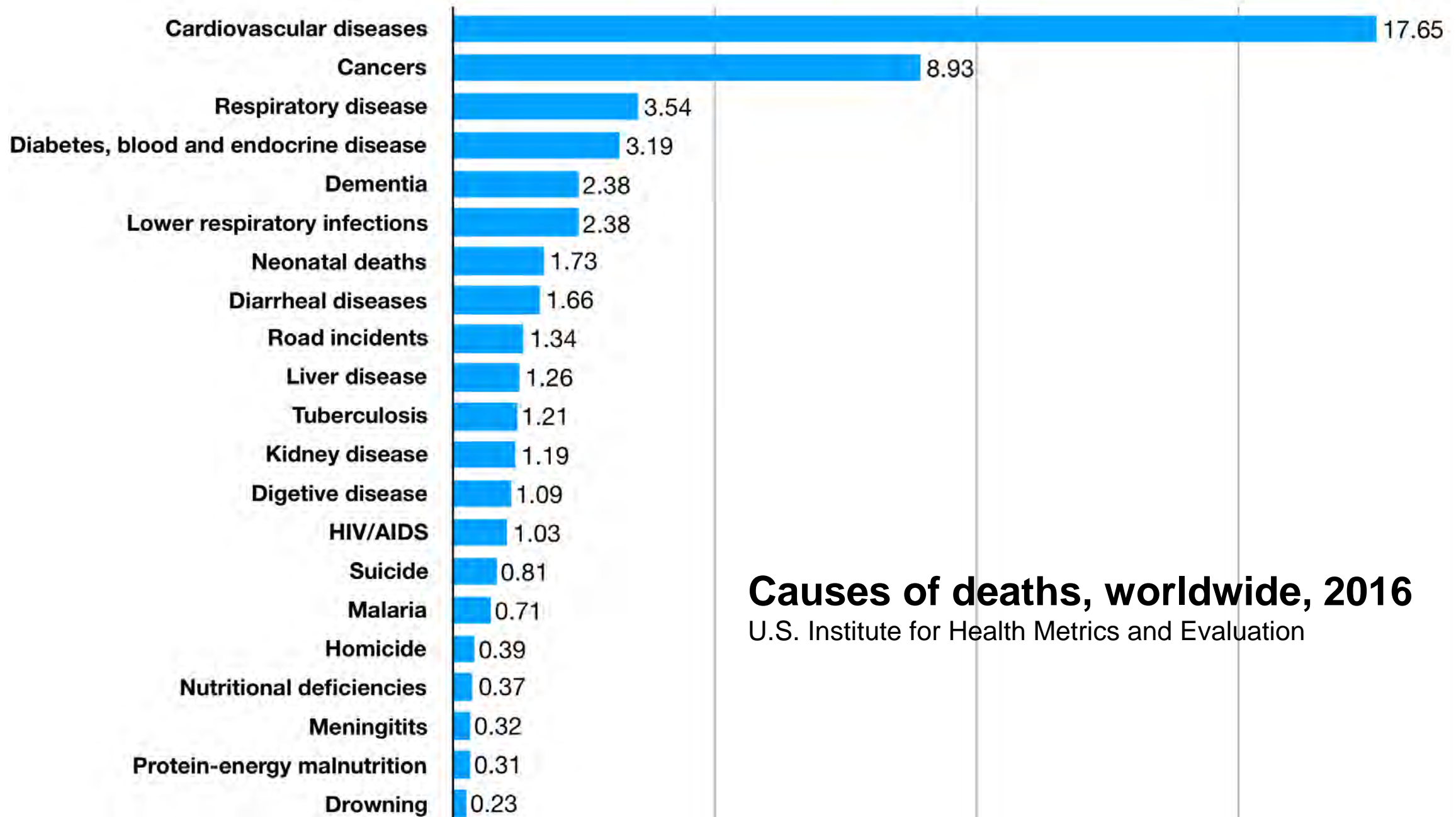




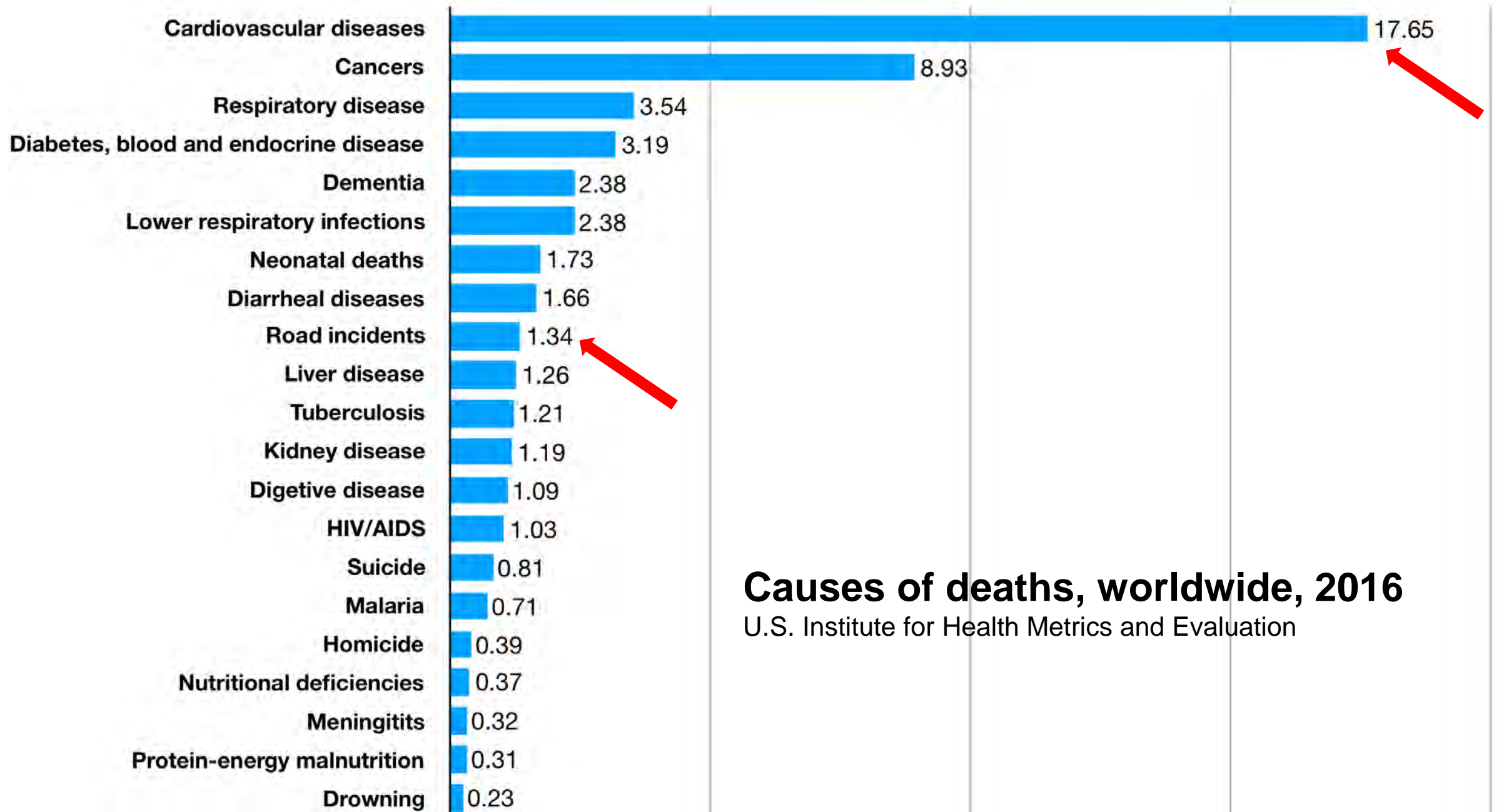
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## Causes of deaths, worldwide, 2016

U.S. Institute for Health Metrics and Evaluation

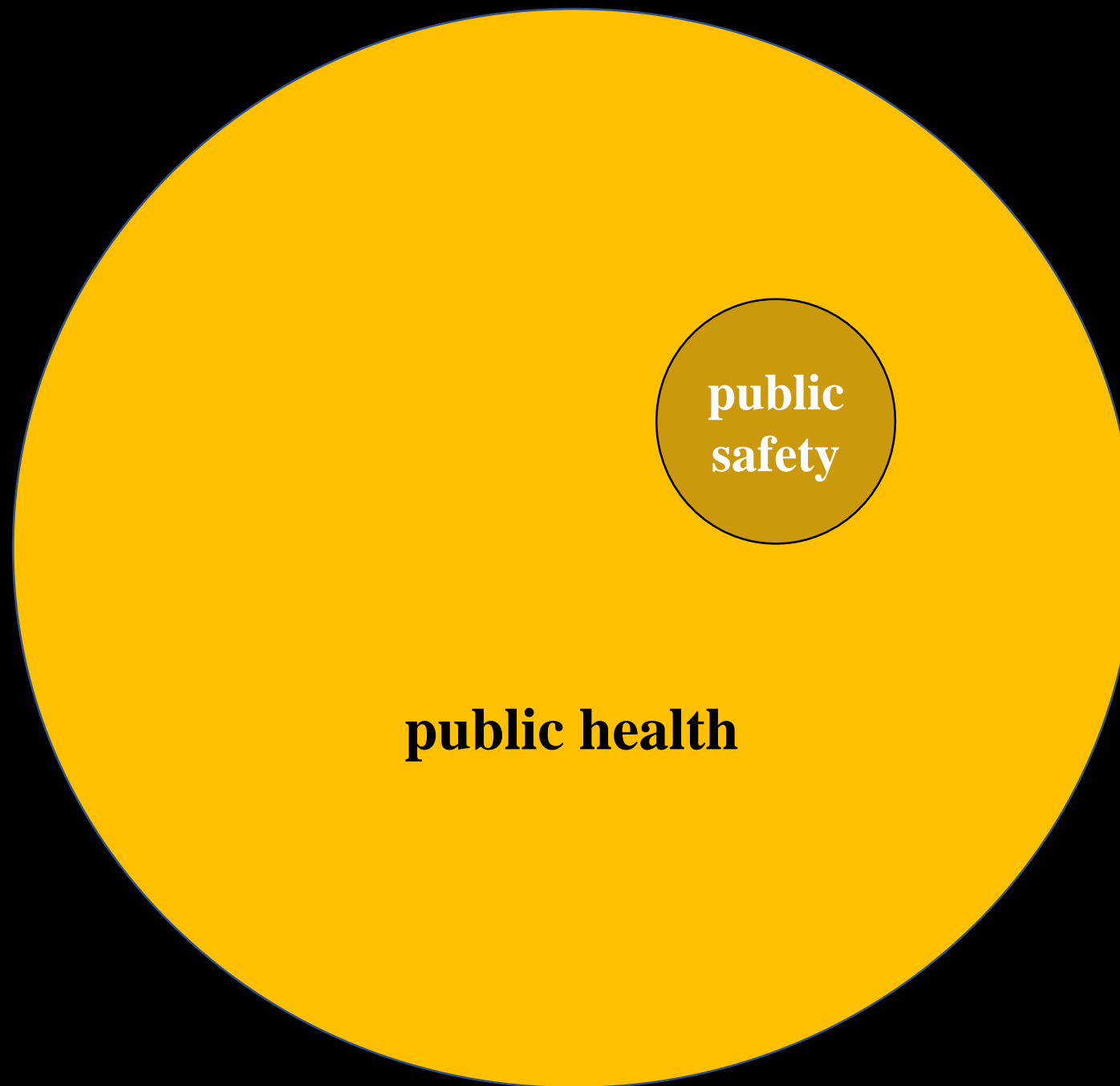


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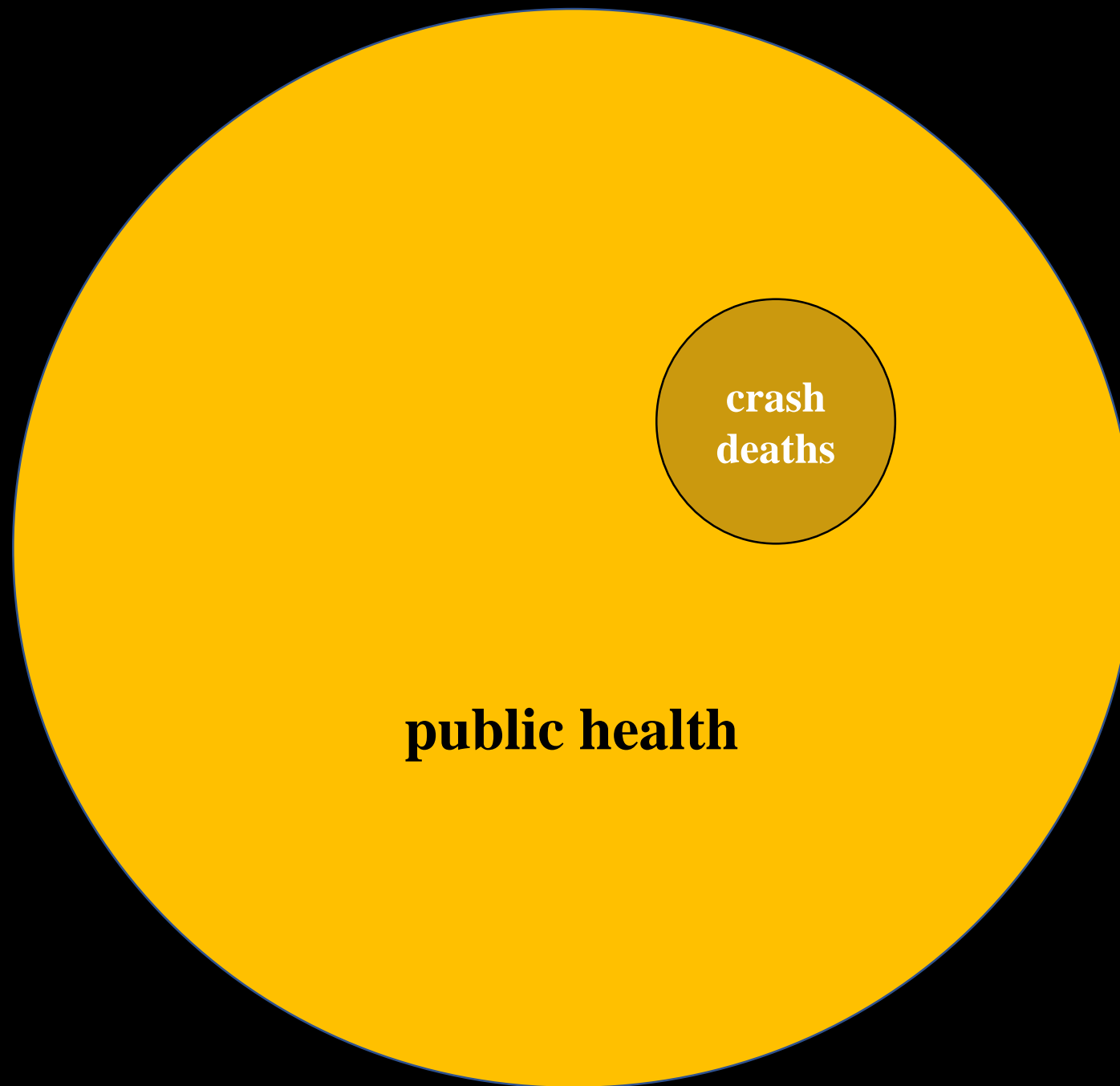






**public health**

**public  
safety**



**public health**

**crash  
deaths**



**crash  
deaths**

**premature death  
associated with  
sedentary living**



crash  
deaths

**premature death  
associated with  
sedentary living**



crash  
deaths

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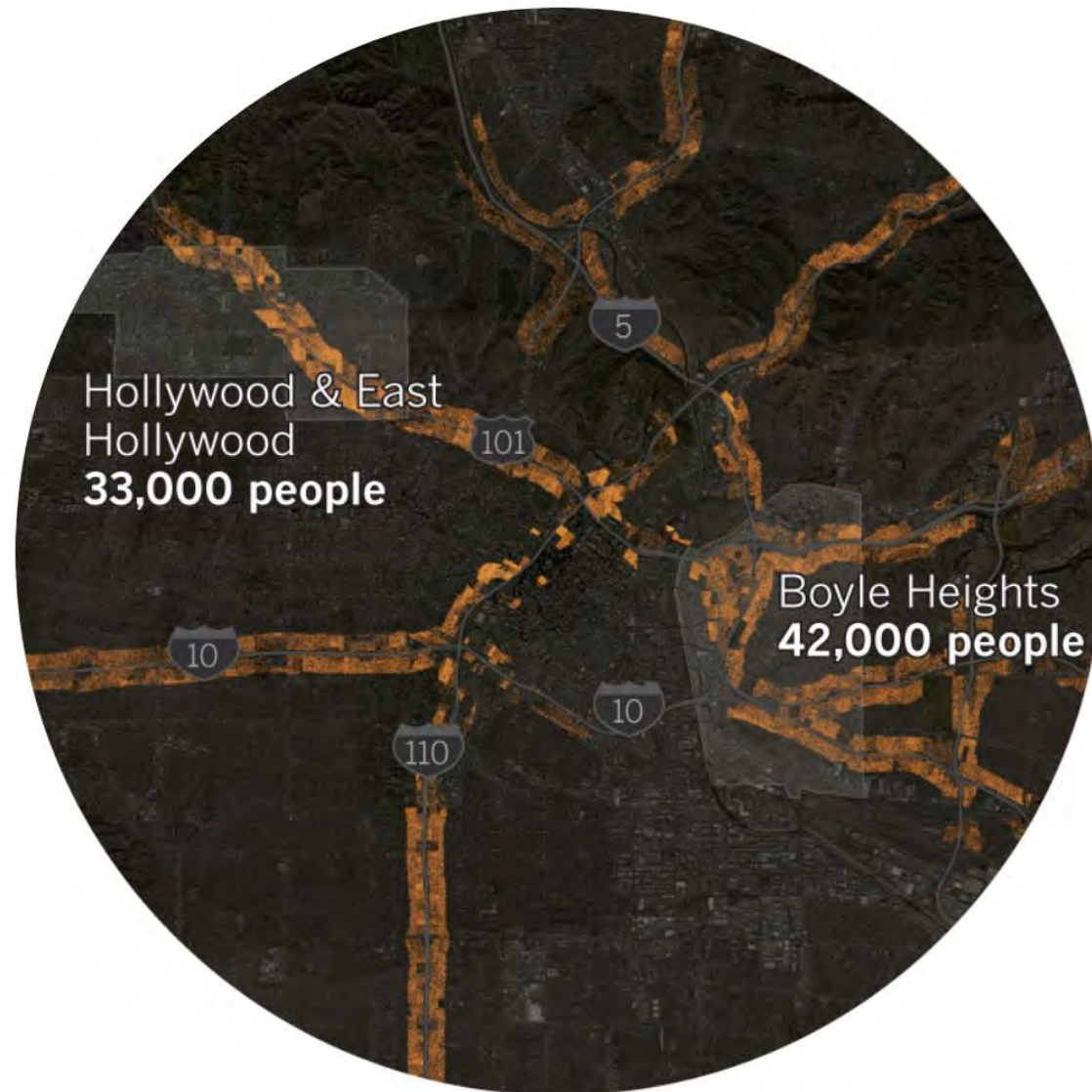


# L.A. keeps building near freeways, even though living there makes people sick

Are you one of the 2.5 million Southern Californians already living in the pollution zone?

By **TONY BARBOZA AND JON SCHLEUSS**

MARCH 2, 2017, 3 A.M.



1 dot = 1 person living within 1,000 feet of a freeway in 2010



3

We use what we pay for.

2013 | REPORT for **america's**  
**CARD** **INFRASTRUCTURE**

AMERICA'S  
G . P . A . **D+**

ESTIMATED INVESTMENT  
NEEDED BY 2020:

**\$3.6 TRILLION**



# 2013 REPORT CARD for \*\*\* america's INFRASTRUCTURE

AMERICA'S  
G.P.A. **D+**

ESTIMATED INVESTMENT  
NEEDED BY 2020:  
**\$3.6 TRILLION**



2013 REPORT CARD FOR AMERICA'S INFRASTRUCTURE ASCE



## Roads

2013  
GRADE **D**



Forty-two percent of America's major urban highways remain congested, costing the economy an estimated \$101 billion in wasted time and fuel annually. While the conditions have improved in the near term, and Federal, state, and local capital investments increased to \$91 billion annually, that level of investment is insufficient and still projected to result in a decline in conditions and performance in the long term. Currently, the Federal Highway Administration estimates that \$170 billion in capital investment would be needed on an annual basis to significantly improve conditions and performance.

A = Exceptional  
B = Good  
C = Mediocre  
D = Poor  
F = Failing

AMERICA'S GPA

**D+**

^ NAVIGATION MENU ^

2013 | **REPORT** | for **america's**  
**CARD** | **INFRASTRUCTURE**

AMERICA'S  
G.P.A. **D+**

ESTIMATED INVESTMENT  
NEEDED BY 2020:  
**\$3.6 TRILLION**

## 2017 Infrastructure Report Card



**America's Infrastructure Scores a**  
**D+**





## 2017 INFRASTRUCTURE REPORT CARD



### OVERVIEW

America's roads are often crowded, frequently in poor condition, chronically underfunded, and are becoming more dangerous. More than two out of every five miles of America's urban interstates are congested and traffic delays cost the country \$160 billion in wasted time and fuel in 2014. One out of every five miles of highway pavement is in poor condition and our roads have a significant and increasing backlog of rehabilitation needs. After years of decline, traffic fatalities increased by 7% from 2014 to 2015, with 35,092 people dying on America's roads.

### CAPACITY & CONDITION

With over four million miles of roads crisscrossing the United States, from 15 lane interstates to residential streets, roads are among the most visible and familiar forms of infrastructure. In 2016 alone, U.S. roads carried people and goods over 3.2 trillion miles—or more than 300 round trips between Earth and Pluto. After a slight dip during the 2008 recession, Americans are driving more and vehicle miles travelled hit a record high in 2016.

With more traffic on the roads, it is no surprise that America's congestion problem is getting worse, but adding additional lanes or new roads to the highway system will not solve congestion on its own. More than two out of every five miles of the nation's urban interstates are congested. Of the country's 100 largest metro areas, all but five saw increased traffic congestion from 2013 to 2014. In 2014, Americans spent 6.9 billion hours delayed in traffic—42 hours per driver. All of that sitting in traffic wasted 3.1 billion gallons of fuel. The lost time and wasted fuel add up—the total in 2014 was \$160 billion.

## 2017 Infrastructure Report Card



# America's Infrastructure Scores a

# D+





## 2017 INFRASTRUCTURE REPORT CARD



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## 2017 INFRASTRUCTURE REPORT CARD

### RECOMMENDATIONS TO RAISE THE GRADE

- Increase funding from all levels of government and the private sector to tackle the massive backlog of highway needs.
- Fix the federal Highway Trust Fund by raising the federal motor fuels tax. To ensure long-term, sustainable funding for the federal surface transportation program, the current user fee of 18.4 cents per gallon on gasoline and 24.4 cents per gallon on diesel should be raised and tied to inflation to restore its purchasing power, fill the funding deficit, and ensure reliable funding for the future.
- Tackle congestion through policies and technologies that maximize the capacity of the existing road network and create an integrated, multimodal transportation system.
- Prioritize maintenance and the state of good repair to maximize the lifespan of roads.
- State and local governments should ensure their funding mechanisms (motor fuel taxes or other) are sufficient to fund their needed investment.
- All levels of government need to think long-term about how to fund their roads and consider potential alternatives to the motor fuel taxes, including further study and piloting of mileage-based user fees.
- Increase investment and expand the federal Highway Safety Improvement Program to find new ways and further propagate existing methods to make roads safe for all users.





## 2017 INFRASTRUCTURE REPORT CARD



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With more traffic on the roads, it is no surprise that America's congestion problem is getting worse, but adding additional lanes or new roads to the highway system will not solve congestion on its own. More than two out of every five miles of the nation's urban interstates are congested. Of the country's 100 largest metro areas, all but five saw increased traffic congestion from 2013 to 2014. In 2014, Americans spent 6.9 billion hours delayed in traffic—42 hours per driver. All of that sitting in traffic wasted 3.1 billion gallons of fuel. The lost time and wasted fuel add up—the total in 2014 was \$160 billion.



## 2017 INFRASTRUCTURE REPORT CARD

### RECOMMENDATIONS TO RAISE THE GRADE

- Increase funding from all levels of government and the private sector to tackle the massive backlog of highway needs.
- Fix the federal Highway Trust Fund by raising the federal motor fuels tax. To ensure long-term, sustainable funding for the federal surface transportation program, the current user fee of 18.4 cents per gallon on gasoline and 24.4 cents per gallon on diesel should be raised and tied to inflation to restore its purchasing power, fill the funding deficit, and ensure reliable funding for the future.
- Tackle congestion through policies and technologies that maximize the capacity of the existing road network and create an integrated, multimodal transportation system.
- Prioritize maintenance and the state of good repair to maximize the lifespan of roads.
- State and local governments should ensure their funding mechanisms (motor fuel taxes or other) are sufficient to fund their needed investment.
- All levels of government need to think long-term about how to fund their roads and consider potential alternatives to the motor fuel taxes, including further study and piloting of mileage-based user fees.
- Increase investment and expand the federal Highway Safety Improvement Program to find new ways and further propagate existing methods to make roads safe for all users.





## 2017 INFRASTRUCTURE REPORT CARD



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congested and traffic delays cost the country \$160 billion in wasted time and fuel in 2014. One out of every five miles of highway pavement is in poor condition and our roads have a significant and increasing backlog of rehabilitation needs. After years of decline, traffic fatalities increased by 7% from 2014 to 2015, with 35,092 people dying on America's roads.

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AMERICAN HIGHWAY USERS ALLIANCE

# Unclogging America's Arteries 2015

Prescriptions for Healthier Highways



2015 | [WWW.HIGHWAYS.ORG](http://WWW.HIGHWAYS.ORG)



## Unclogging America's Arteries 2015

### Prescriptions for Healthier Highways



## CHAPTER 3

The Wilson Bridge project, along with the \$676 million makeover of the nearby Springfield Mixing Bowl (junction of I-95, I-495, I-395), have provided significant mobility improvements to local and through travelers in Metropolitan Washington.

### Success Story 2: Katy Freeway Reconstruction (Houston, Texas)

The Katy Freeway is the primary east-west Interstate highway in the Houston region. It connects downtown Houston with its suburbs and is the principal freight connection to San Antonio to the west and New Orleans to the east. Originally constructed in the 1960s and designed for 80,000 vehicles per day, growth in the Houston area overwhelmed the facility with nearly three times those volumes—a situation which produced up to 11 hours of daily congestion.<sup>3</sup>

To alleviate severe congestion on the Katy Freeway, TxDOT and the Harris County Toll Road Authority (HCTRA) undertook a \$2.8 billion reconstruction of a 20-mile section from the Bend County Line to the I-10/I-610 interchange. The construction was completed over a nearly five-year period between 2003 and 2008 and widened the freeway from three lanes in each direction to six general purpose lanes in each direction and two variably priced high occupancy toll lanes. The project was funded with a combination of toll-backed debt and traditional grant funding.

The result of the investment is congestion relief—and faster commutes:

**The Houston Chronicle reported in 2012 that morning commutes along the reconstructed corridor dropped from 33 minutes to 27 minutes during morning peak hour and from over 38 minutes to 28 minutes during evening peak.<sup>4</sup>**



continued ►

<sup>3</sup> Federal Highway Administration. Katy Freeway Reconstruction Profile. [https://www.fhwa.dot.gov/ipd/project\\_profiles/tx\\_katyfreeway.aspx](https://www.fhwa.dot.gov/ipd/project_profiles/tx_katyfreeway.aspx)

<sup>4</sup> Freemantle, Tony. Expanded Katy Freeway shaves minutes from commute. Houston Chronicle. October 12, 2012. <http://www.chron.com/news/houston-texas/article/Expanded-Katy-Freeway-shaves-minutes-from-commute-3941203.php>

<sup>5</sup> Politifact analysis of WisDOT, Milwaukee County Sheriff's Accident Data. <http://www.politifact.com/wisconsin/statements/2015/may/24/wisconsin-transportation-builders-association/accidents-cut-half-after-marquette-interchange-wor/>



## Unclogging America's Arteries 2015

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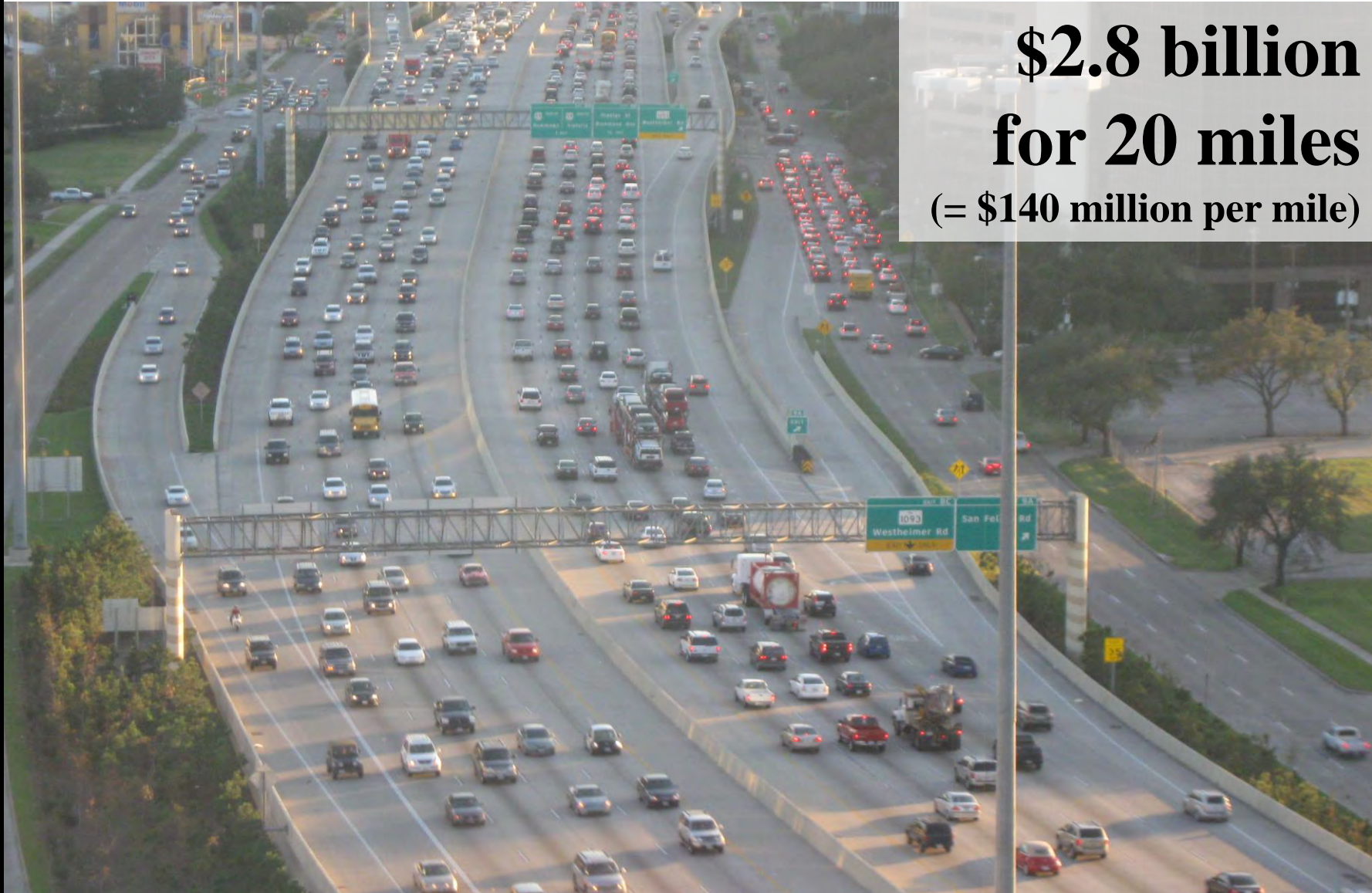
## Success Story 2: Katy Freeway Reconstruction (Houston, Texas)





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**\$2.8 billion  
for 20 miles  
(= \$140 million per mile)**







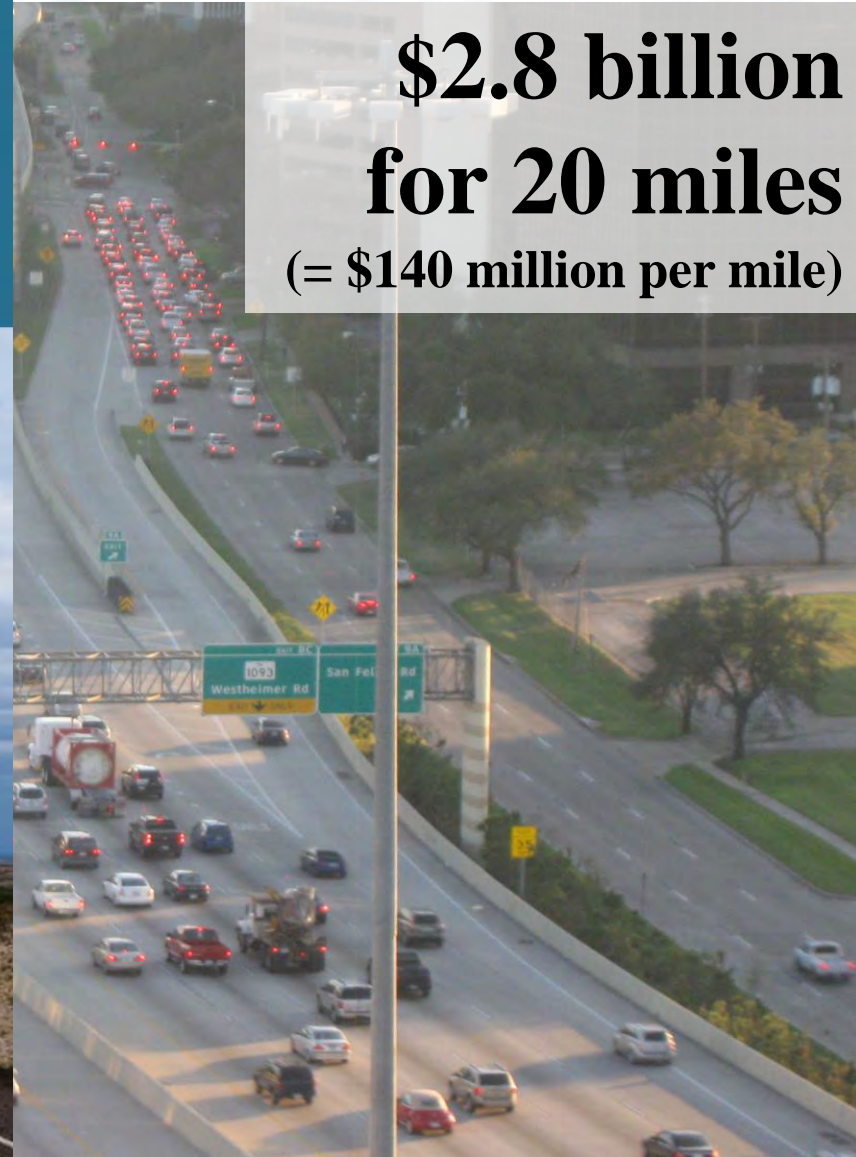
## 2012 REPORT CARD FOR TEXAS' INFRASTRUCTURE

An independent review of the current state of infrastructure needs, capability and funding in the State of Texas by the Texas Section of the American Society of Civil Engineers



## Reconstruction

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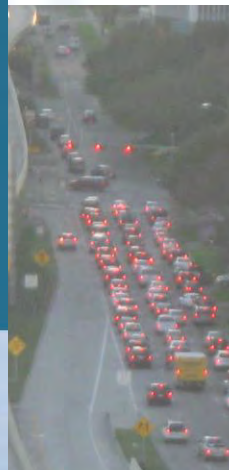




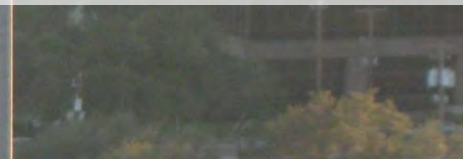
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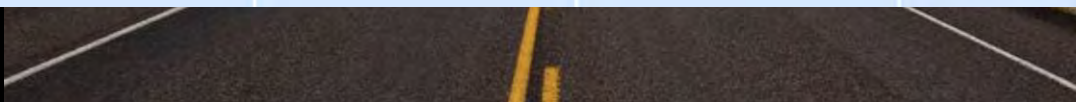
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Category	2008 Texas Grade	2012 Texas Grade	Comments
Roads	D	D	While the Texas Transportation Commission has encouraged innovation in alternative project deliveries and funding, overall maintenance has declined and funding for traditional projects has declined. Texas now ranks 43rd in highway spending per capita in the U.S., falling significantly from number 17 in 2008.



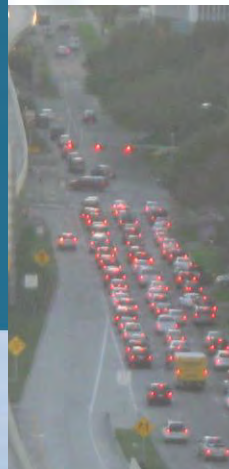




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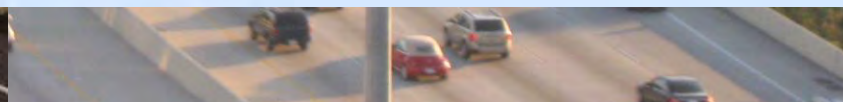
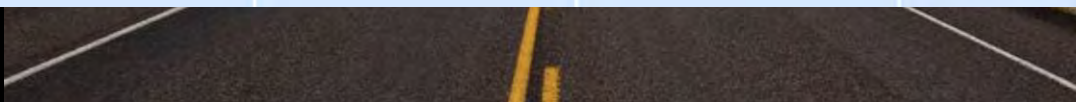
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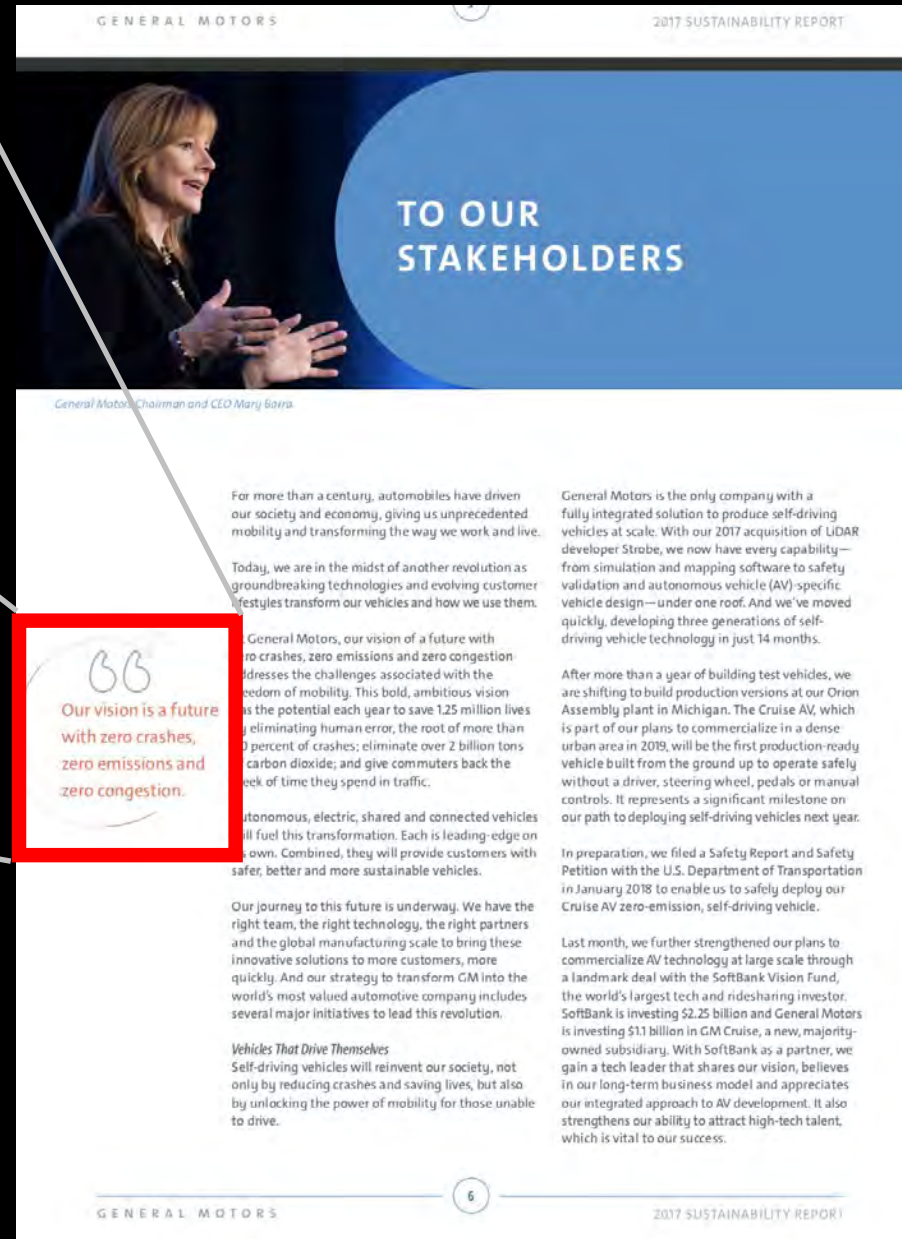
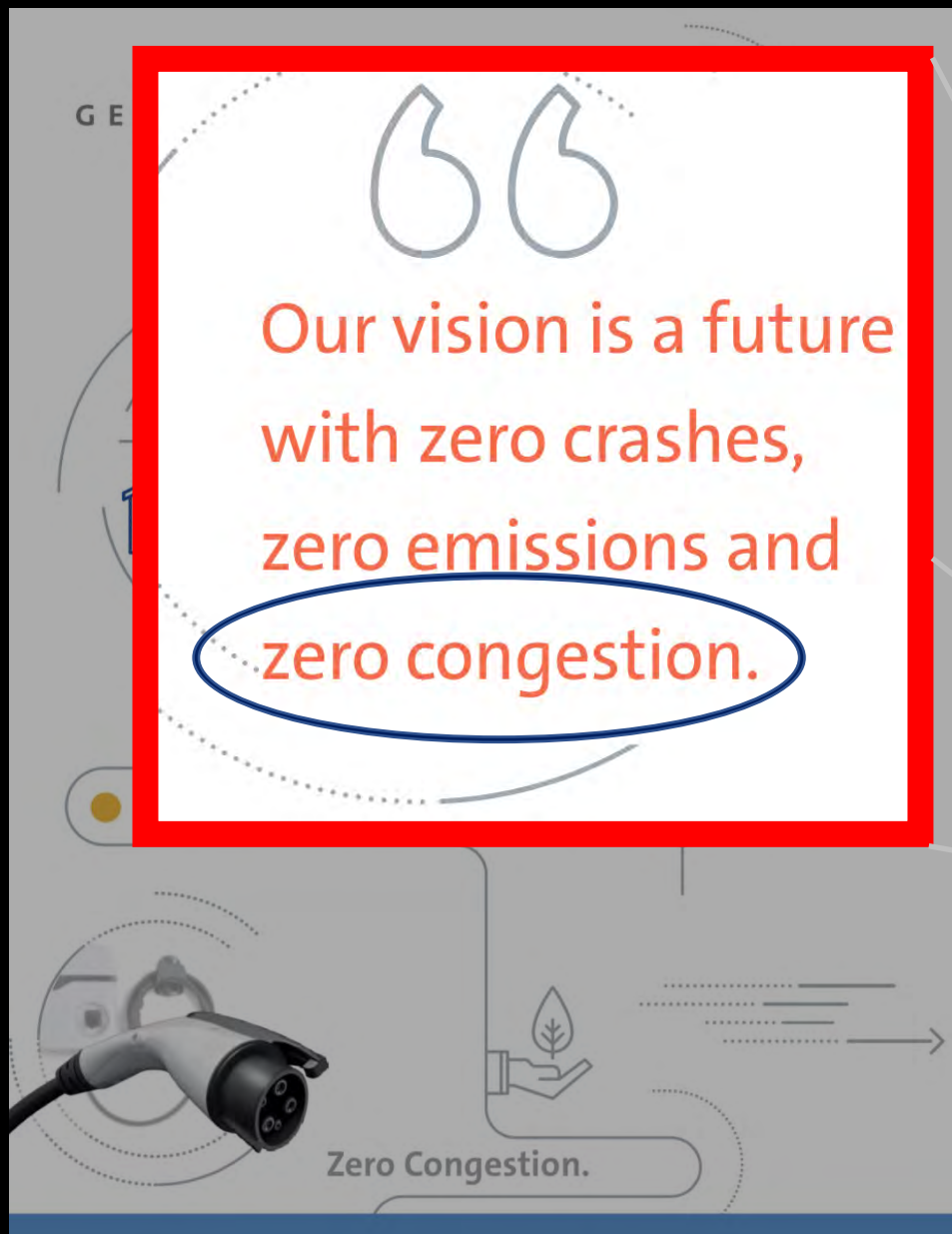




4

The war on congestion cannot be won.

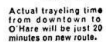




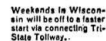
# *Cure for Congestion*

**DAVISON LIMITED HIGHWAY, DETROIT.** Built by the Board of Wayne County (Michigan) Road Commissioners, this limited highway provides nonstop highway travel for 1½ miles through a solidly built-up neighborhood in the Detroit area. Concrete bridges carry cross traffic over the expressway. Entrance to the expressway is permitted only at each end. One-way concrete service drives for local traffic are provided on both sides of the concrete highway. At the center of the project, provision is made for bus stops and passenger interchange with the upper level.

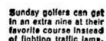




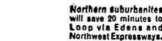
**Actual traveling time from downtown to O'Hare will be just 20 minutes on new route.**



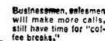
**Weekends in Wisconsin** will be off to a faster start via connecting Tri-State Tollway.



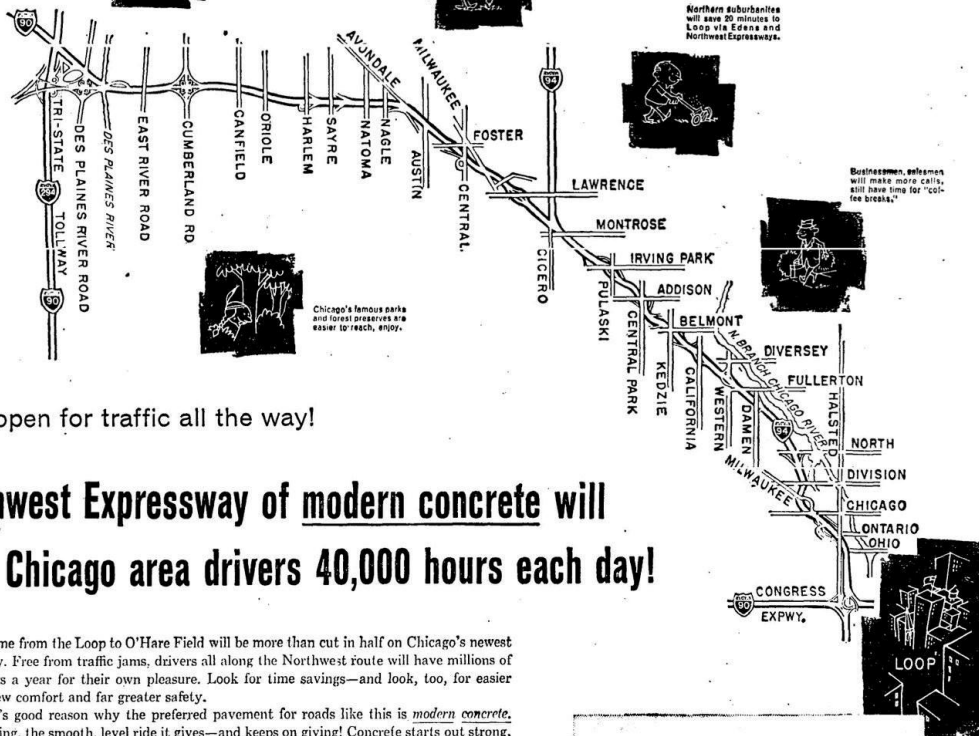
**Sunday golfers can get in an extra nine at their favorite course instead of fighting traffic jams.**



**Northern suburbanites will save 20 minutes to Loop via Edens and Northwest Expressways.**



Businessmen, salesmen will make more calls, still have time for "coffee breaks."



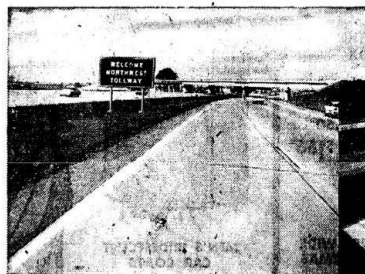
Now open for traffic all the way!

**Northwest Expressway of modern concrete will  
save Chicago area drivers 40,000 hours each day!**

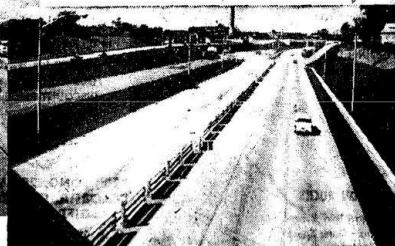
Driving time from the Loop to O'Hare Field will be more than cut in half on Chicago's newest expressway. Free from traffic jams, drivers all along the Northwest route will have millions of extra hours a year for their own pleasure. Look for time savings—and look, too, for easier driving, new comfort and far greater safety.

There's good reason why the preferred pavement for roads like this is *modern concrete*. For one thing, the smooth, level ride it gives—and keeps on giving! Concrete starts out strong, gets stronger year by year! Summer heat can't soften it, so no ruts and ridges. Winter can't rough it up, either, thanks to built-in protection from freezing and ice-melting salts.

Next time you're driving on Northwest Expressway, give a nod of thanks to your city, county, state and federal officials who made it possible. You go *1st class* on concrete!



**Northwest Expressway leading into Northwest Tollway at O'Hare Field. Smooth-riding highways of modern concrete now speed travelers from the international airport to all parts of Chicagoland.**



**Interchange at Edens and Northwest Expressways.** On modern concrete highways like these, upkeep costs stay low. Add the 50 year life engineers can design into concrete and figure some real tax savings!



**Congress Expressway.** Vital Chicago traffic arteries, Congress and Northwest Expressways will carry swiftly and safely more than 540,000 people per day.

FOR HIGHWAYS WITH A SOLID FUTURE  
MODERN **Concrete**

**PORTLAND CEMENT ASSOCIATION**

111 West Washington Street, Chicago 2, Illinois  
A national organization to improve and extend the uses of concrete







Smooth-riding concrete gets suburbanites home relaxed, ready to enjoy extra leisure.



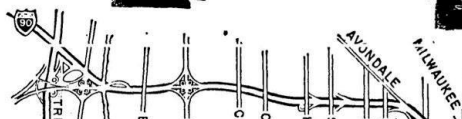
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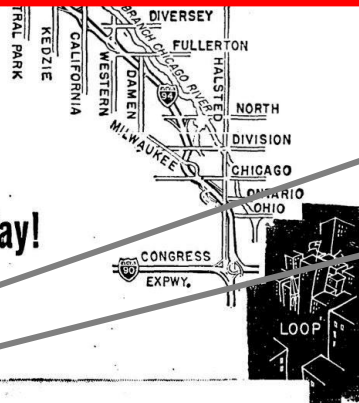
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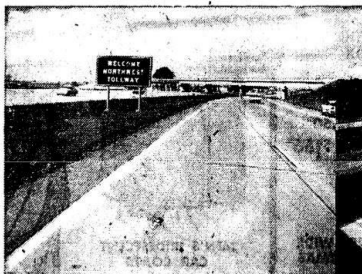
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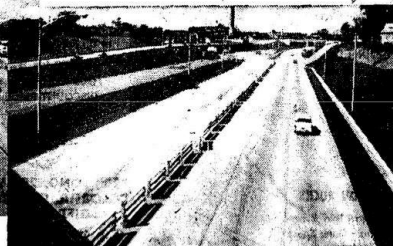
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2015 | [WWW.HIGHWAYS.ORG](http://WWW.HIGHWAYS.ORG)









# TEXAS CLEAR LANES

CLEARING THE WAY FOR TEXAS DRIVERS



**Annual hours of delay per commuter, San Antonio: 46**



# San Antonio District Texas Clear Lanes Projects



## TEXAS CLEAR LANES (UNDER CONSTRUCTION)

#	Project Highway	Project Limits
1	I-410 at US 90	I-410 at US 90 Interchange
2	US 281 (Phase 1 and 2)	From Loop 1604 to Bexar/Comal County Line
3	I-10 East	From I-410 to Loop 1604
4	Loop 1604 Northeast	From I-35 to FM 78

## TEXAS CLEAR LANES (FUNDED IN 2019 UTP)

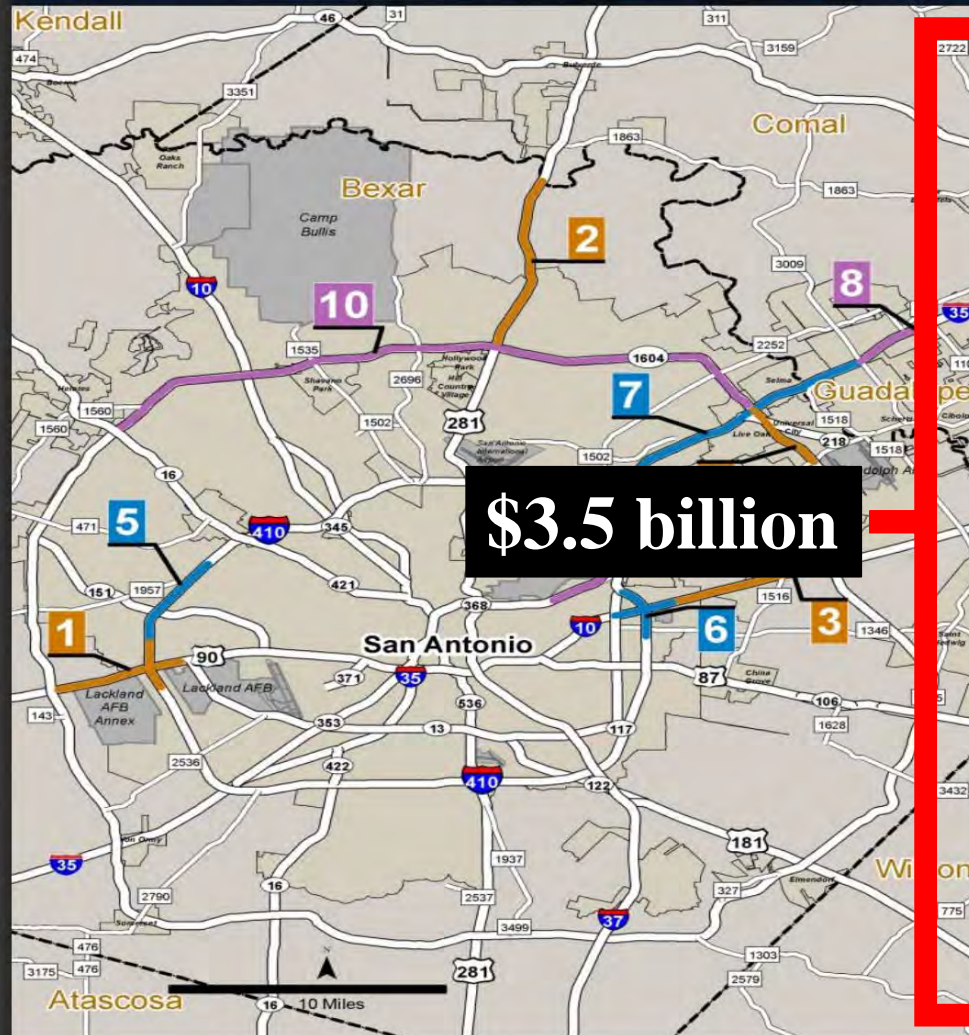
#	Project Highway	Project Limits
5	I-410	From US 90 to Ingram Road
6	I-410 at I-10 East	I-410 at I-10 East Interchange
7	I-35 Northeast Expansion (NEX)	From I-410N to FM 3009

## TEXAS CLEAR LANES (FUTURE POTENTIAL PROJECTS UNFUNDED OR PARTIALLY FUNDED)

#	Project Highway	Project Limits
8 & 9	I-35 NEX Deferred Work Components	From FM 3009 to FM 1103 From I-410S to I-410N
10	Loop 1604 North	From SH 16 to I-35



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REPORT CARD FOR  
**TEXAS'**  
INFRASTRUCTURE

2017

Aviation



**B-**

Bridges



**B**

Dams



**D**

Highways  
and Roads



**D**

Flood Control



**D**

Drinking Water



**D+**

Wastewater



**D**

**G.P.A.**



[InfrastructureReportCard.org/Texas](http://InfrastructureReportCard.org/Texas)



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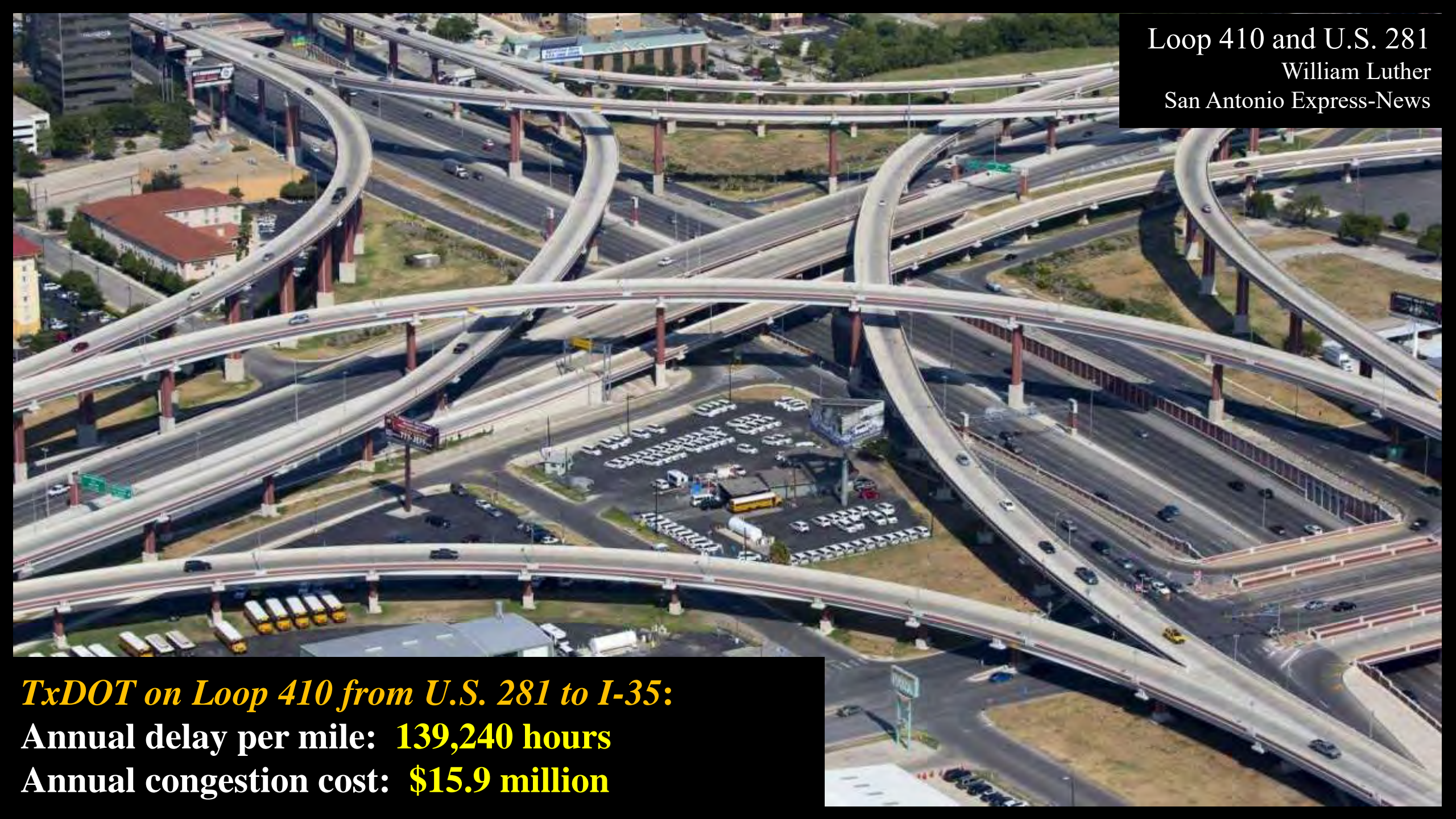
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Loop 410 and U.S. 281  
William Luther  
San Antonio Express-News







Loop 410 and U.S. 281  
William Luther  
San Antonio Express-News

***TxDOT on Loop 410 from U.S. 281 to I-35:***  
**Annual delay per mile: 139,240 hours**  
**Annual congestion cost: \$15.9 million**



Loop 410 and I-10, San Antonio  
Simtropolis





I-10 between UTSA Boulevard and Huebner  
San Antonio Express-News







*TxDOT on I-10 from Loop 410 to Loop 1604:*  
Annual delay per mile: **161,960 hours**  
Annual congestion cost: **\$19.6 million**



U.S. 281 at Evans Road  
Tom Reel, San Antonio Express-News





U.S. 281 at Evans Road  
Tom Reel, San Antonio Express-News



***TxDOT on U.S. 281:***

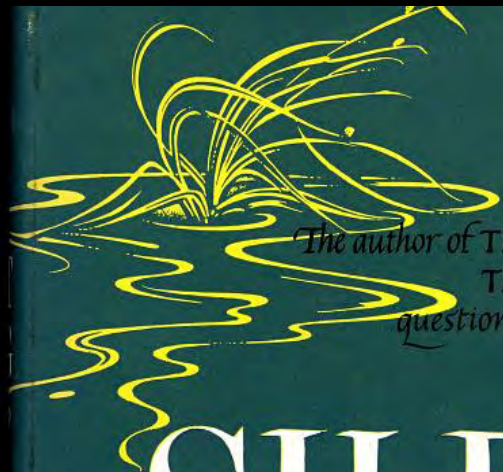
**Annual hours of delay per mile: 252,330 hours**

**Annual congestion cost: \$14.6 million**







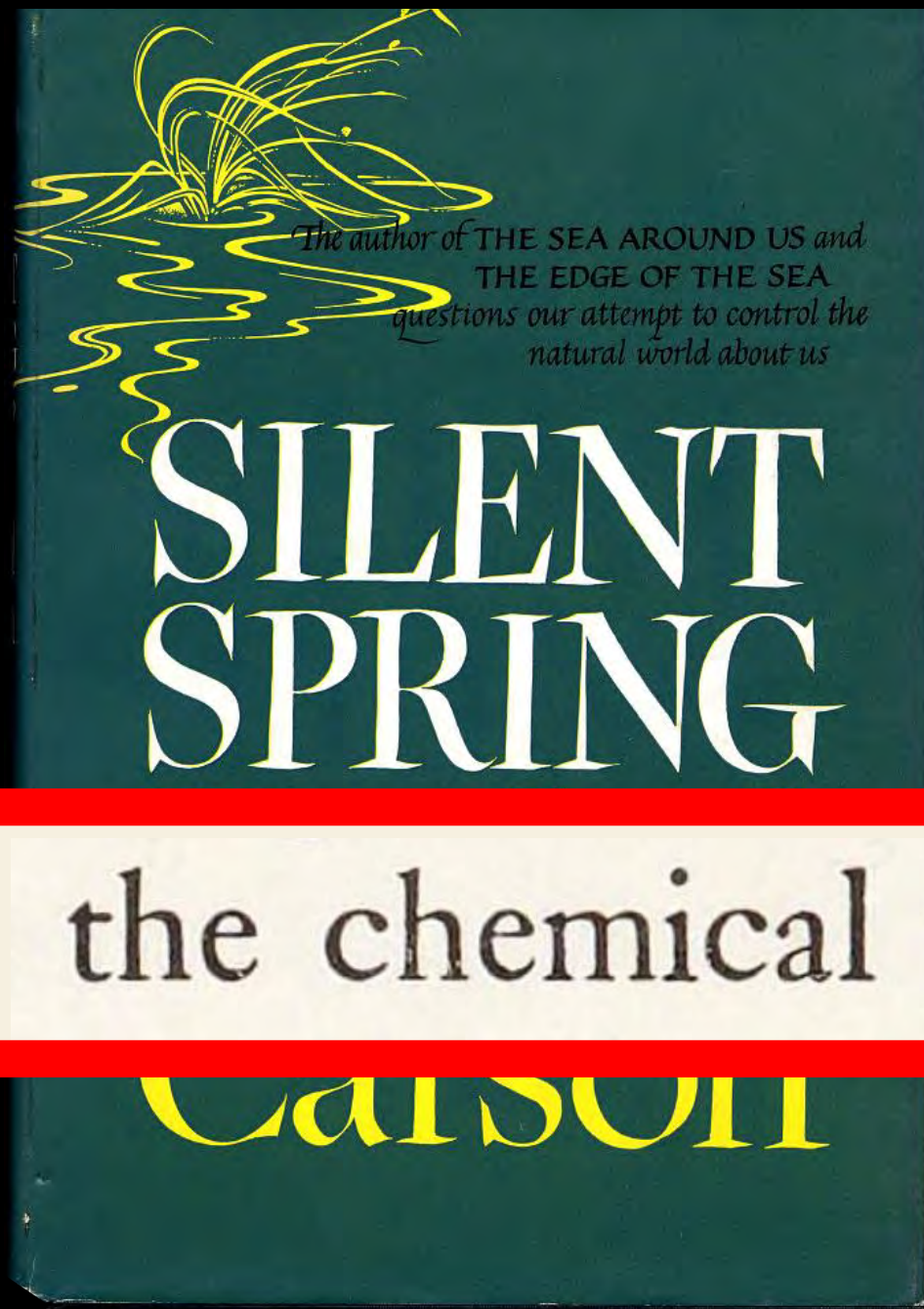


*The author of THE SEA AROUND US and  
THE EDGE OF THE SEA  
questions our attempt to control the  
natural world about us*

# SILENT SPRING Rachel Carson



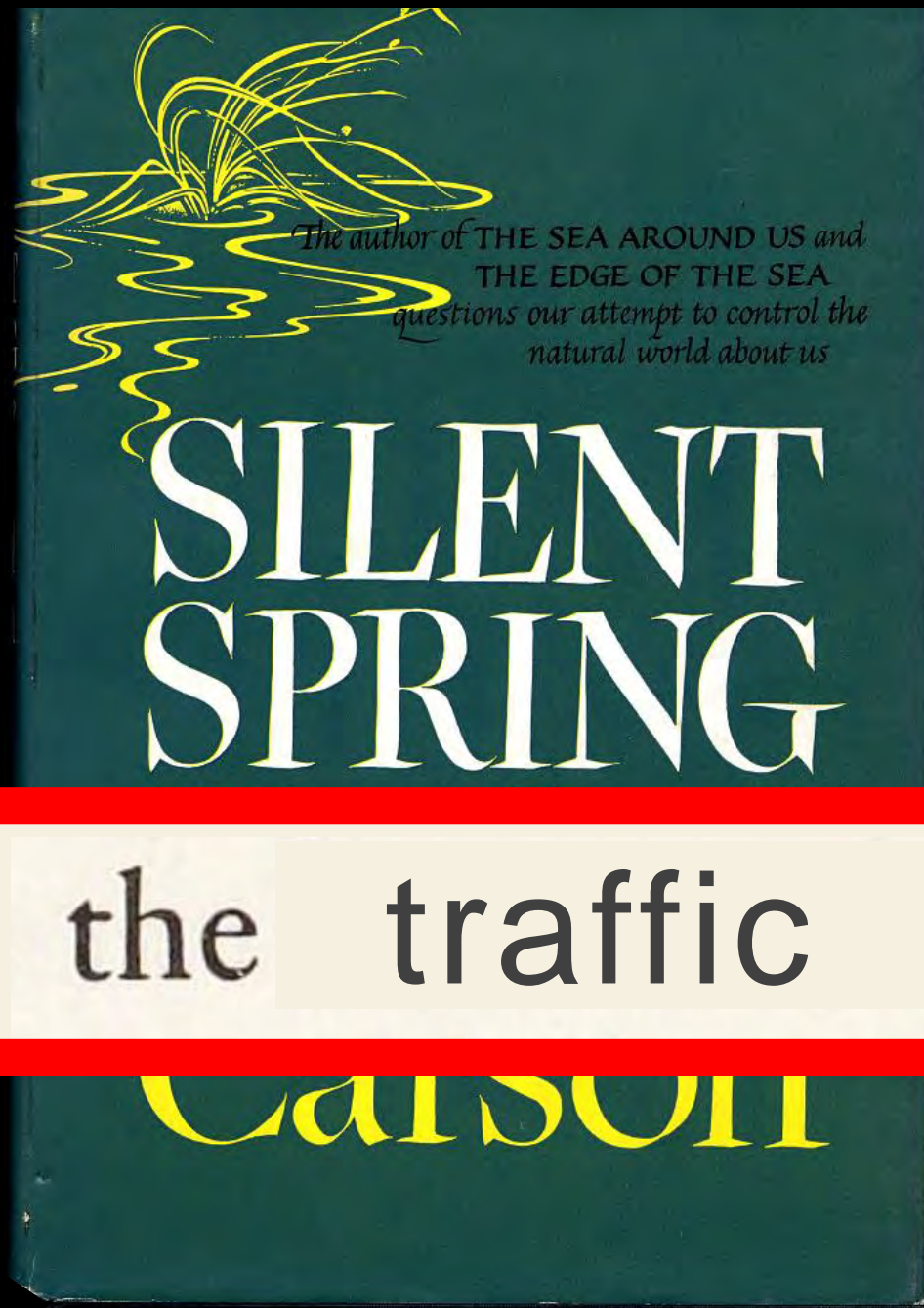




the chemical war is never won,







the traffic war is never won,



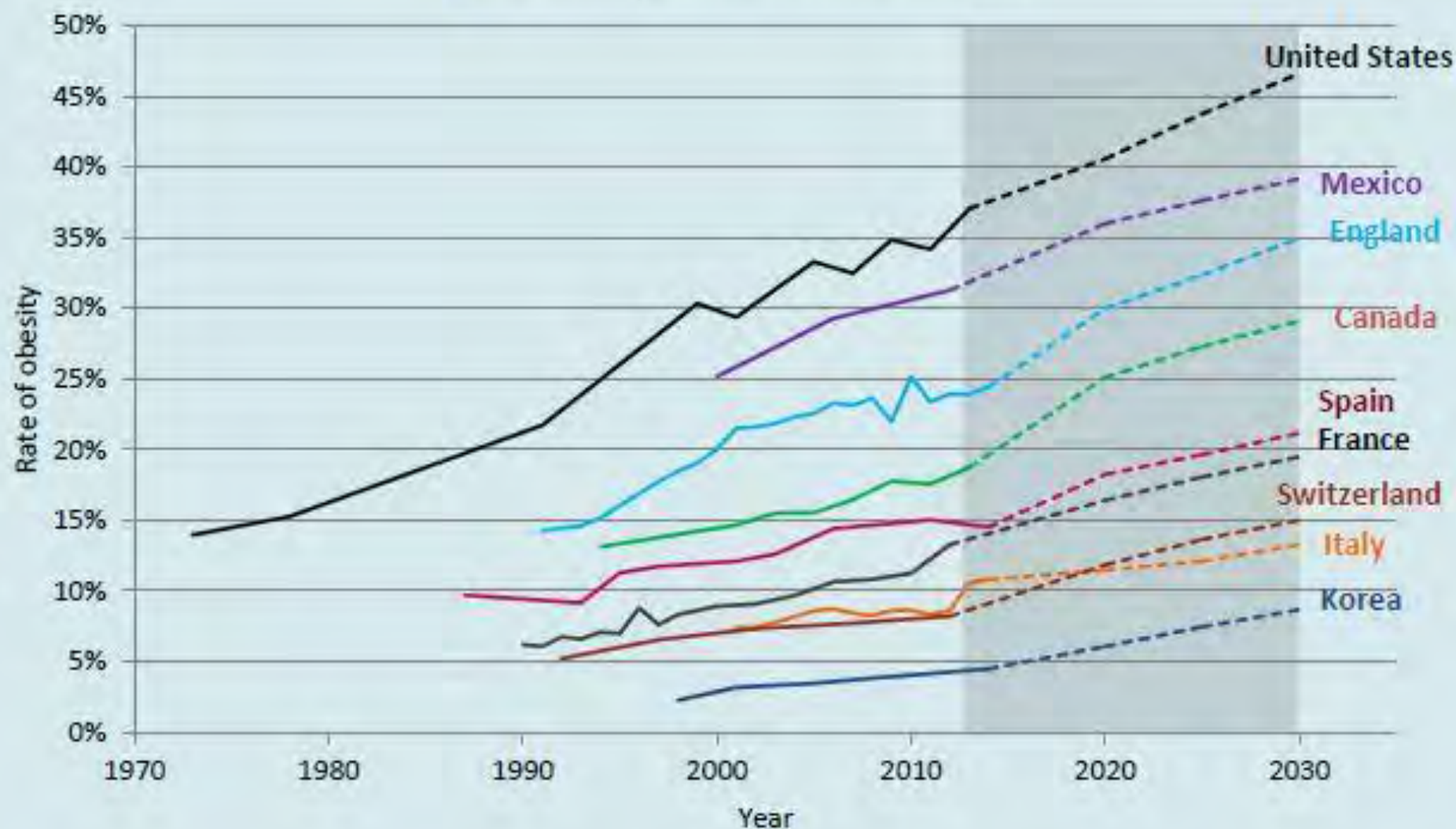




*photo: Stephen Davis*



Figure 5: Projected rates of obesity



Note: Obesity defined as Body Mass Index (BMI)  $\geq 30\text{kg/m}^2$ . OECD projections assume that BMI will continue to rise as a linear function of time.

Source: OECD analysis of national health survey data.





5

Low tech can be smart too.





Houston Street, c. 1910  
(Texas Transportation Museum)

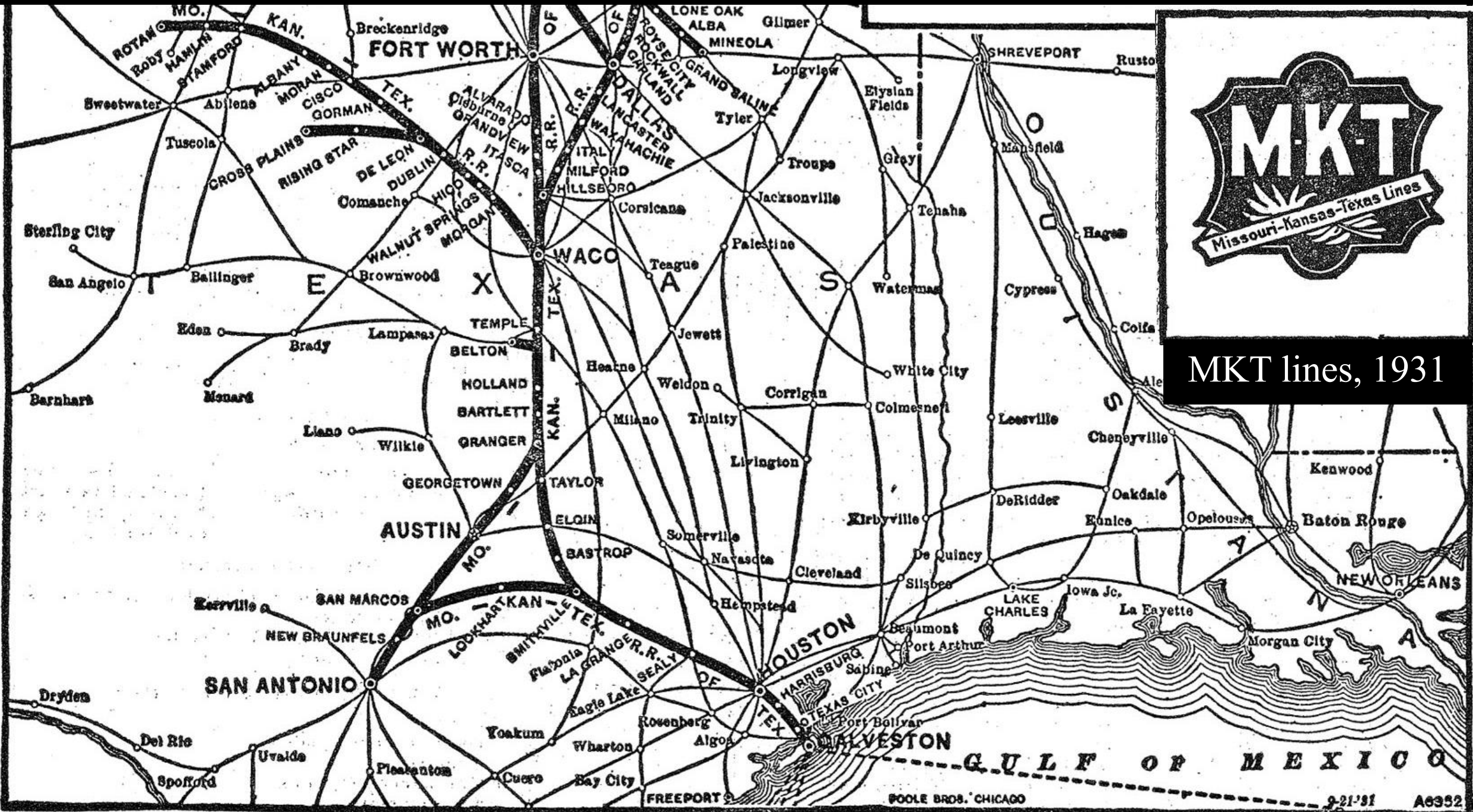




Alamo Plaza, c. 1900  
Lewis and Betty Birdsong  
Texas Transportation Museum







MKT lines, 1931

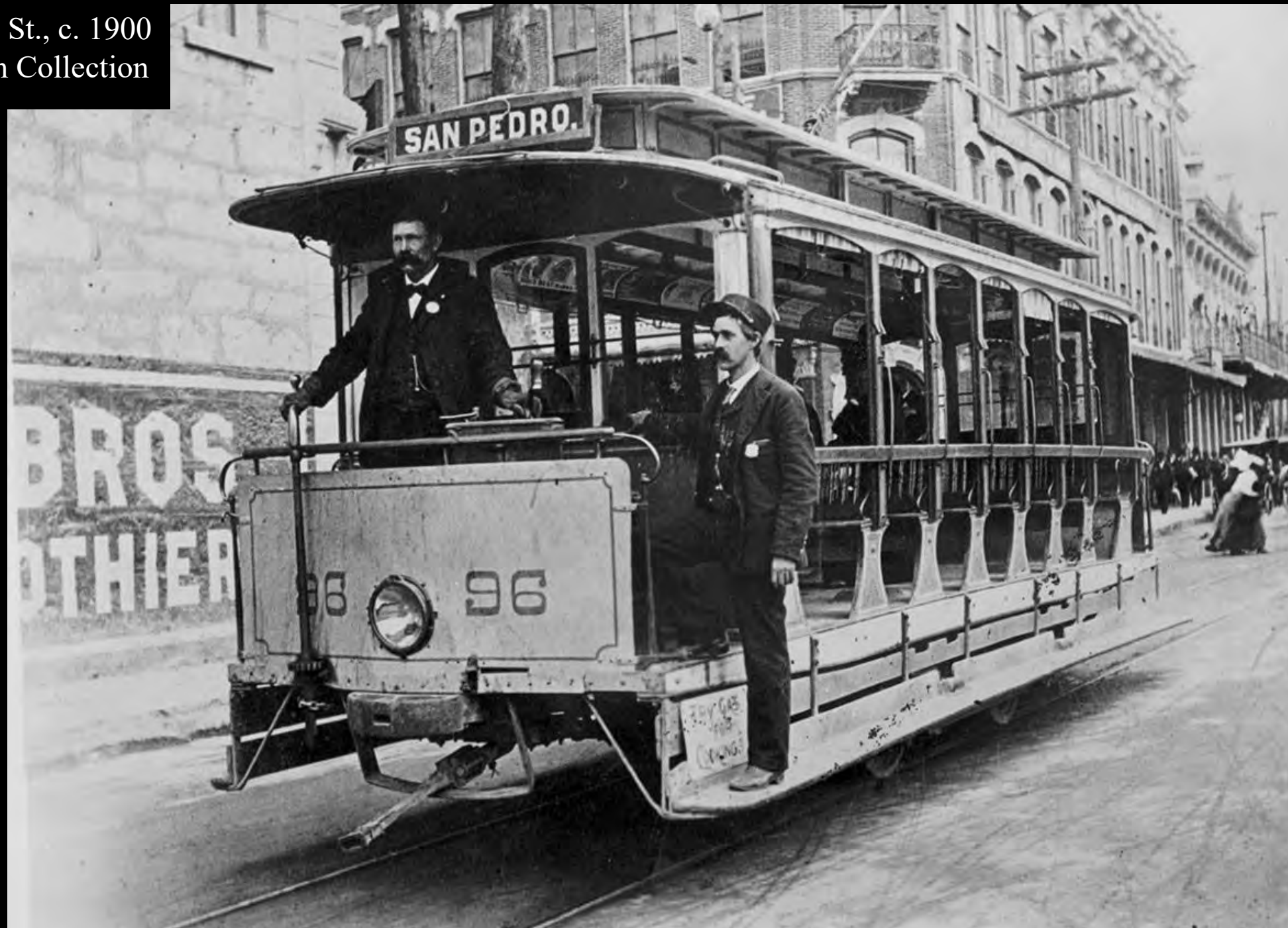


c. 1895 (Texas Transportation Museum)





S. Alamo St at E. Commerce St., c. 1900  
Zintgraff Studio Photograph Collection



San Pedro Avenue, c. 1910  
Texas Transportation Museum

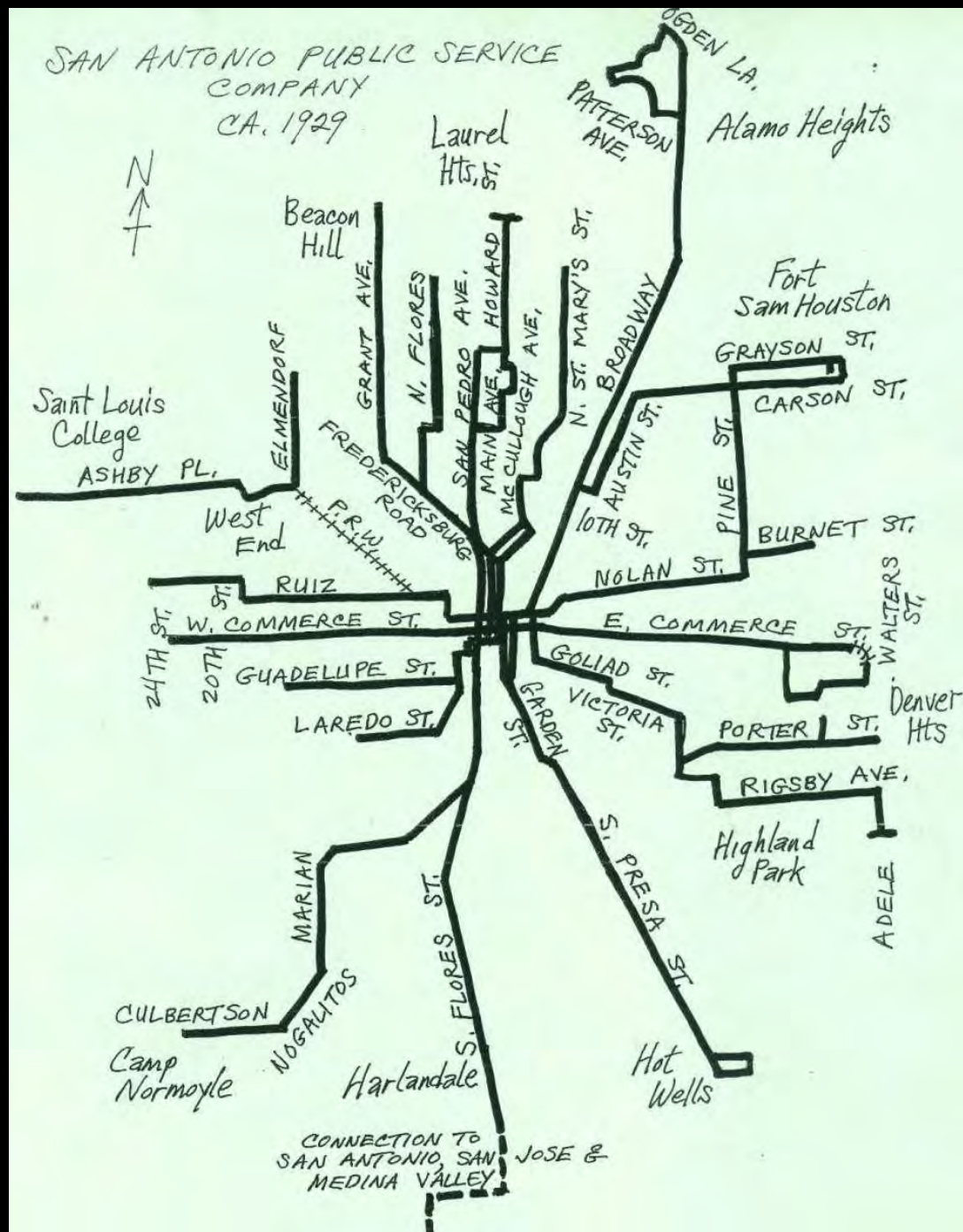




San Pedro Avenue, 1927  
Texas Transportation Museum







San Antonio Public Service  
Company lines, 1929  
Texas Transportation Museum



Alamo Plaza, 1910  
Hugh Hemphill, Texas Transportation Museum





Hugh Hemphill, Texas Transportation Museum





W. F. CROTHERS L. F. BIRDSONG.

CROTHERS & BIRDSONG.

BICYCLE . . .  
SUNDRIES

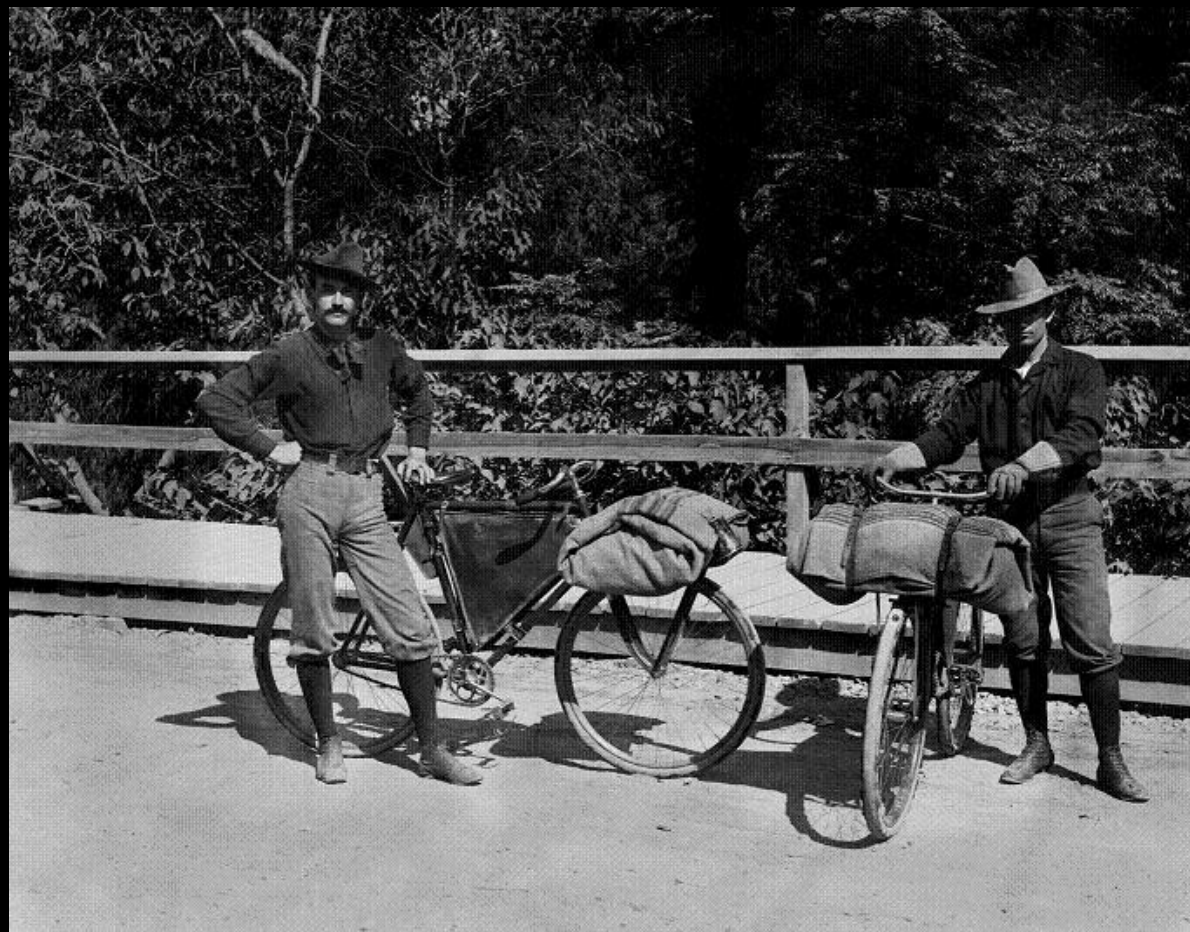


All Work Guaranteed  
and Turned Out  
Promptly.

**Bicycle \* Repair \* Shop.**

214½ EAST HOUSTON ST.,  
San Antonio, Texas.

Hugh Hemphill, Texas Transportation Museum



W. F. CROTHERS

L. F. BIRDSONG.

CROTHERS & BIRDSONG.

BICYCLE . . .  
 . . . SUNDRIES



All Work Guaranteed  
 and Turned Out  
 Promptly.

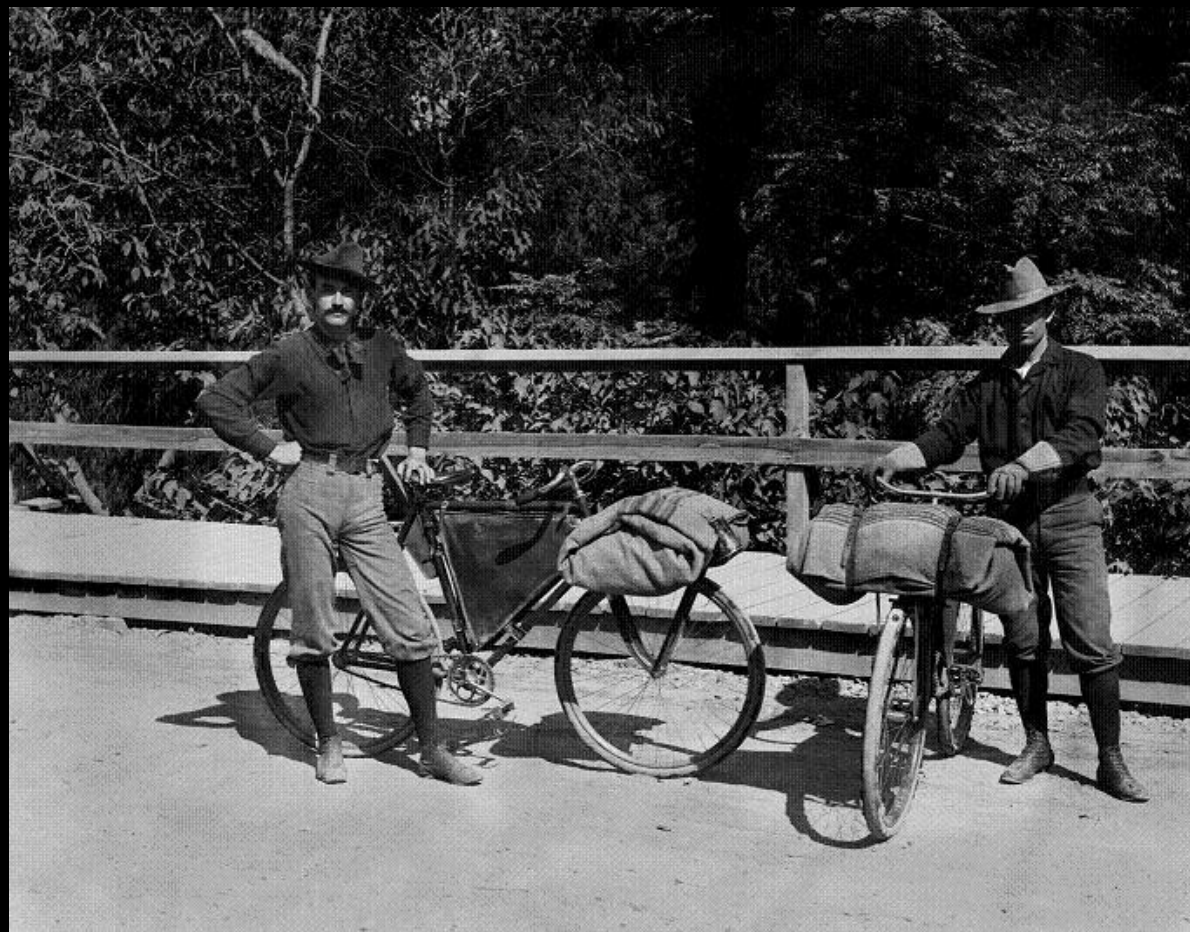
**Bicycle \* Repair \* Shop.**

214½ EAST HOUSTON ST.,

San Antonio, Texas.

Hugh Hemphill, Texas Transportation Museum





Hugh Hemphill, Texas Transportation Museum



Center Point  
(Kerr County  
c. 1890



Corpus Christi, c. 1900

Hugh Hemphill, Texas Transportation Museum



Marion, Texas, c. 1910  
Hugh Hemphill, Texas Transportation Museum



## Conservation Society Reopens Expressway Battle

By JAMES McCORRY

The long battle over the routing of the North Expressway through Olmos Basin and Brackenridge Park apparently isn't over.

The San Antonio Conservation Society has retained the prestigious Austin law firm of Clark, Thomas, Harris, Denius, and Winters to study the legality and propriety of the routing, the San Antonio Express has learned.

Working quietly since last fall, the society, through its attorneys, has hired experts to look into the routing and design

of the expressway, apparently with the idea that a redesign with a minimum amount of re-routing could save the parklands and at the same time serve the traffic needs expected to be served by the North Expressway.

Mrs. Don F. Tobin, president of the society, Monday confirmed that the law firm had been retained. The firm assigned Attorney Barr McClellan to work on the case.

"It's quite certain now that the North Expressway (routing) cannot be declared over," Mrs. Tobin avowed. She said the so-

ciety is approaching the problem "of saving the parks while serving the traffic needs" from a positive, constructive standpoint.

Among the experts hired to look into the proposed routing have been traffic engineers.

Mrs. Tobin reported the society hopes to approach the council sometime within the month on its alternate approach to the problems incident to the design of the expressway. It's understood that a certain amount of rerouting also would be required to save cutting up Olmos Basin and Brackenridge Park.

Questioned as to whether the society plans to go to court if it is unable to reach an amicable settlement with the city on the routing, Mrs. Tobin said the society hopes to avoid a court fight. She added that there are some legal points that haven't yet been argued in court.

Even after the Congregation of the Sisters of Charity of the Incarnate Word settled their long legal battle with the city over the routing through the Incarnate Word campus, the Conservation Society pledged it would continue the fight against

the routing of the controversial expressway.

The society met shortly after the settlement between the nuns and the city, and its 75-member board of directors agreed to continue to oppose the routing "by any and all means possible" in line with its policy of opposing destruction of parks and scenic beauty.

The city purchased the right-of-way through the college property in January, 1966, and last August started the purchase of right-of-way for the North Expressway from private property owners.

Raymond Weber, assistant city attorney in charge of right-of-way matters, said that no North Expressway cases have been referred to him for litigation in the section of the expressway north of Pearl Parkway, the section for which the city is purchasing the right-of-way.

"I haven't filed any and don't see any in sight," Weber said before the Conservation Society surfaced Monday.

The state, however, which is buying the right-of-way for the highway south of Pearl Parkway, already has filed a num-

ber of condemnation suits in connection with the Interstate 35 and 37 interchange, which will serve the expressway.

In the state cases on which condemnation commissioners already have acted, the state has appealed an award of \$6,150 for a .0689 acre tract as excessive; has appealed, along with the property-owner, an award of \$75,000 for a .3246 acre tract; has accepted, with the property-owners, a \$4,400 award for a .0231 acre parcel and a \$5,750 award for a .0521 acre parcel. A commissioners hearing is set on a .2778 acre tract for May 23.





6

Everyone wants choices.



Amsterdam, Oct. 31, 1972  
ANP Algemeen Nederlands Persbureau



Amsterdam, Oct. 31, 1972  
ANP Algemeen Nederlands Persbureau

# America's love affair with the automobile







Northeast  
Philadelphia, 1953











Photography by Elwood P. Smith

## Auto Deaths Spark Neighborhood Protest

Some 100 area residents yesterday staged a protest at the intersection of Allegheny Ave. and 32d St. where two children were fatally injured by a car Tuesday afternoon. The protesters want a traffic light installed instead of the present four-way stop signs. George Miller, 4, was killed

by a car police said was driven by Gladys McClure, 43, of the 3100 block of Berkley St. Also injured was Karen Benson, 5, who died at 1:12 a.m. yesterday at Medical College Hospital of Pennsylvania. Both lived in the 3200 block of W. Willard St.

*Philadelphia Daily News*  
April 27, 1978




North Philadelphia  
April 28, 1978  
32nd St and Allegheny Ave.  
photo: Robert Dias  
Phila. Evening Bulletin  
Temple University Libraries





RESEARCH ARTICLE

## Persistent pedestrianism: urban walking in motor age America, 1920s–1960s

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### Abstract

Generalizations about ‘car culture’ in the United States, and about American’s ‘love affair with the automobile’, have concealed persistent values and practices among millions of Americans that do not suit such stereotypes. Car culture and the car’s attractions are not denied. American society, however, is a complex of numerous subcultures, including many that resented and resisted the automobile’s growing priority during the twentieth century. Such groups’ resistance to automobile domination has been neglected. Persistent advocacy for pedestrians’ interests is illustrated through numerous examples from the 1920s to the 1960s, the decades when ‘car culture’ rose to its apogee.

‘Statistics show that Americans prefer their automobiles to all other forms of transportation.’ This strangely commonplace statement appeared in an otherwise sophisticated report issued in 1993 by the US Federal Highway Administration.<sup>1</sup> Routine claims such as this are based on statistics of mode usage, not mode preference, and the leap from the one measure to the other is fatal to validity. True, Americans’ reliance on automobiles grew throughout the twentieth century; by mid-century driving predominated even in most large US cities. But we cannot know what people prefer if they do not have good choices. Where the alternatives are unequal, practices tell us nothing about preferences.

The ubiquity of driving in twentieth-century America has too easily been confused for a pervasive preference for driving, and for driving under all circumstances, for all needs. The driving majority has also distracted us from the many who seldom or never drove, whether because of circumstances or preferences. It is not wrong to call the US a ‘car culture’, but like all nationalities, Americans have always

<sup>†</sup>Most of the research and writing of this article were conducted while the author was a visiting faculty member at Technical University Eindhoven with the support of Stichting Historie der Technik and Koninklijke Nederlandse Akademie van Wetenschappen, which institutions are hereby gratefully acknowledged, with special thanks to Professor Ruth Oldenziel of TUE and to Frank Schipper. I am also deeply grateful to Colin Pooley of Lancaster University for the opportunity to contribute to this special section on pedestrians.

<sup>1</sup>Federal Highway Administration, National Bicycling and Walking Study, *Measures to Overcome Impediments to Bicycling and Walking* (FHWA Case Study 4; Washington, Aug. 1993), 5.





North Hollywood, June 1946:  
mothers demand safe streets.



Rankin, Pennsylvania, April 1951. The new bridge had no sidewalks, so residents blocked all bridge traffic until authorities agreed to add them





Third and Cooper Streets, Camden, N.J., February 25, 1952

photo: Frank P. Montone / Philadelphia Evening Bulletin / Temple University Libraries





Juniata (northeast Philadelphia), April 25, 1952  
Philadelphia Evening Bulletin / Temple University Libraries





Reseda , California  
(San Fernando Valley),  
May 1952

Philadelphia, May 5, 1953

photo: Frederick A. Meyer  
Philadelphia Evening Bulletin  
Temple University Libraries







Cheltenham and Loretto Avenues, Philadelphia, September 15, 1954

Philadelphia Evening Bulletin / Temple University Libraries





**HUMAN BARRIER**—Frank Derby Sr., whose son was killed at the intersection Thursday, and Mrs. Fausto Apodach, beside him, who lost her son there two years ago, lead group protesting lack of signals at Glenoaks Blvd. and Vaughn St. Times photo

Pacoima , California  
(San Fernando Valley),  
December 1958





**HUMAN BARRIER**—Frank Derby Sr., whose son was killed at the intersection Thursday, and Mrs. Fausto Apodach, beside him, who lost her son there two years ago, lead group protesting lack of signals at Glenoaks Blvd. and Vaughn St. Times photo

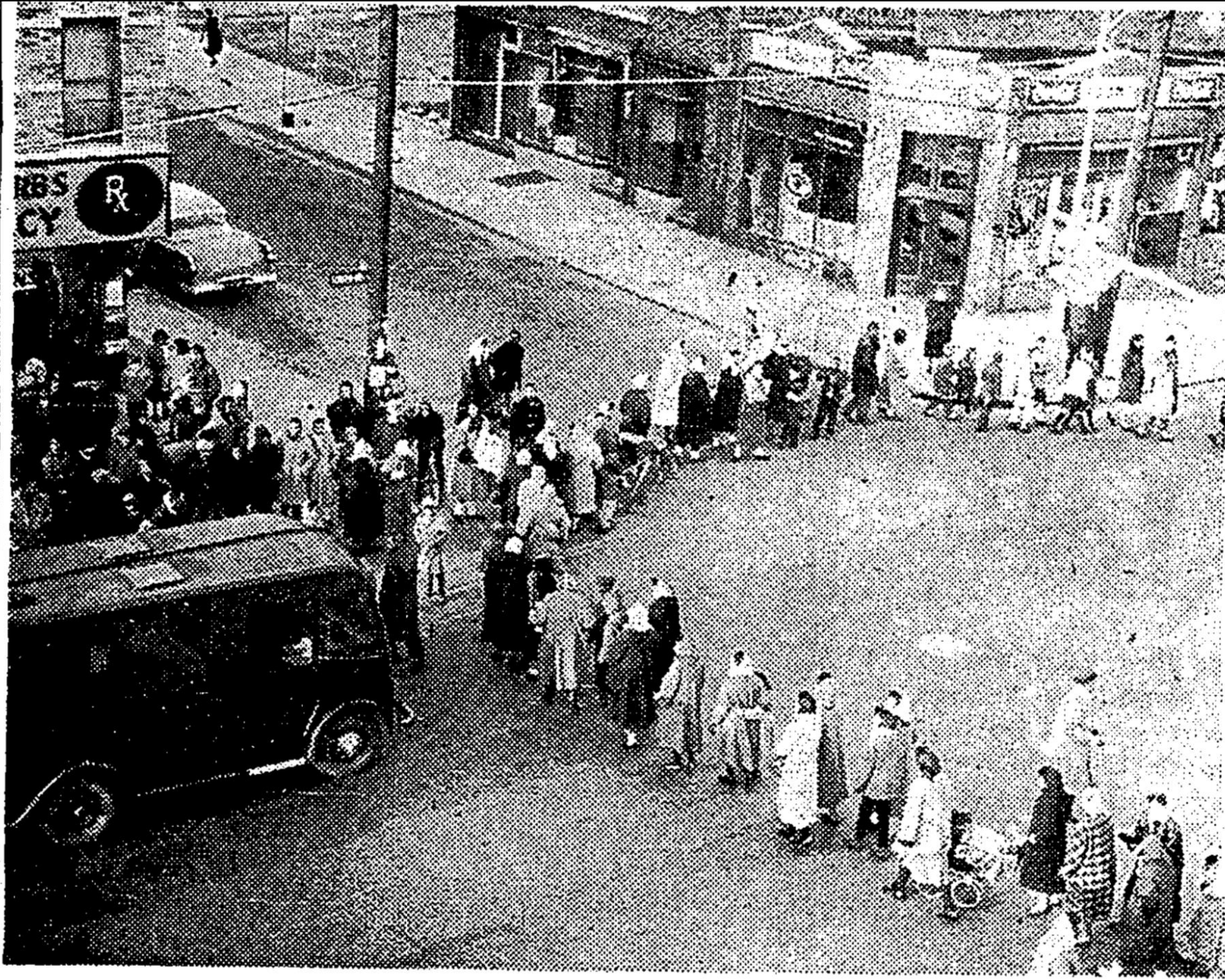
Pacoima , California  
(San Fernando Valley),  
December 1958



Pacoima, California (San Fernando Valley), December 1958 (*Los Angeles Times*)







South Road and 160<sup>th</sup> Street,  
South Jamaica (Queens), New  
York City, January 1959.  
Demanding a traffic light at a  
dangerous intersections,  
residents begin the longest  
volunteer traffic blockade  
known. In September 1960  
the city installed traffic lights.



Philadelphia, Sep. 22, 1968

Langdon and Sanger Sts.

photo: Joseph Wasko  
Phila. Evening Bulletin  
Temple Univ. Libraries







Philadelphia, September 5, 1969

photo: Maurice M. Upton  
Phila. Evening Bulletin / Temple Univ. Libraries



Philadelphia, September 28, 1972  
Chew Avenue and Durham Street  
Phila. Evening Bulletin / Temple Univ. Libraries







27<sup>th</sup> and Berkley Streets, Camden, N.J., May 17, 1976  
photo: George Tiedemann / Philadelphia Evening Bulletin / Temple University Libraries





We don't know what people prefer.



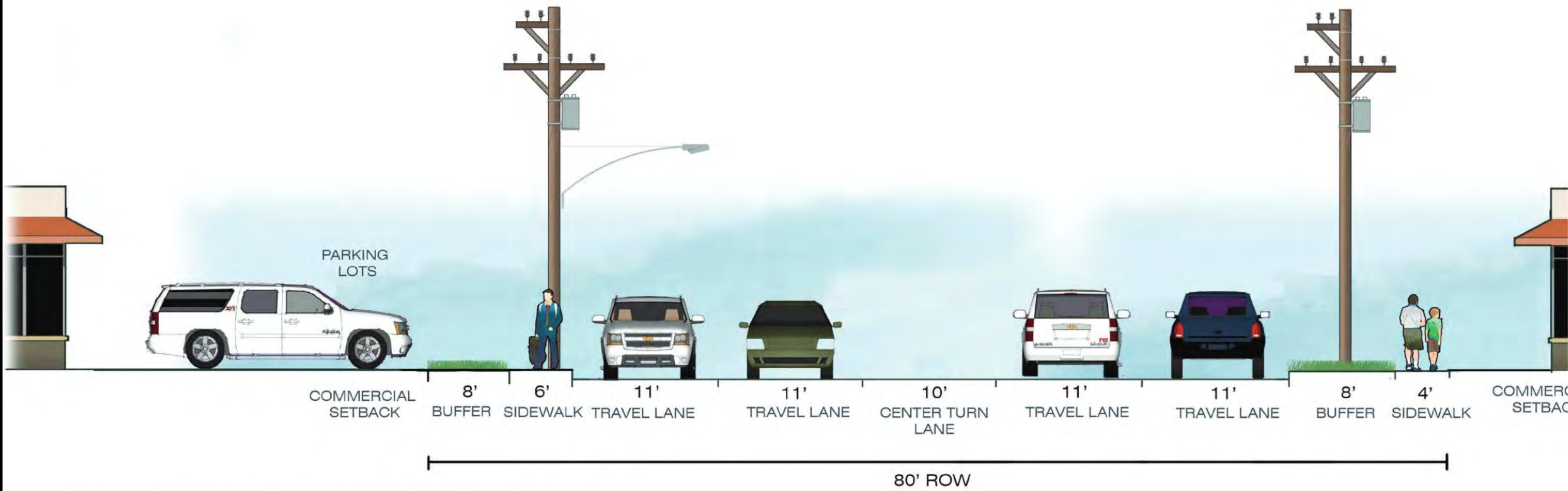
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When people have good choices,  
they can choose what they prefer.

7

When people have good choices,  
they can choose what they prefer.



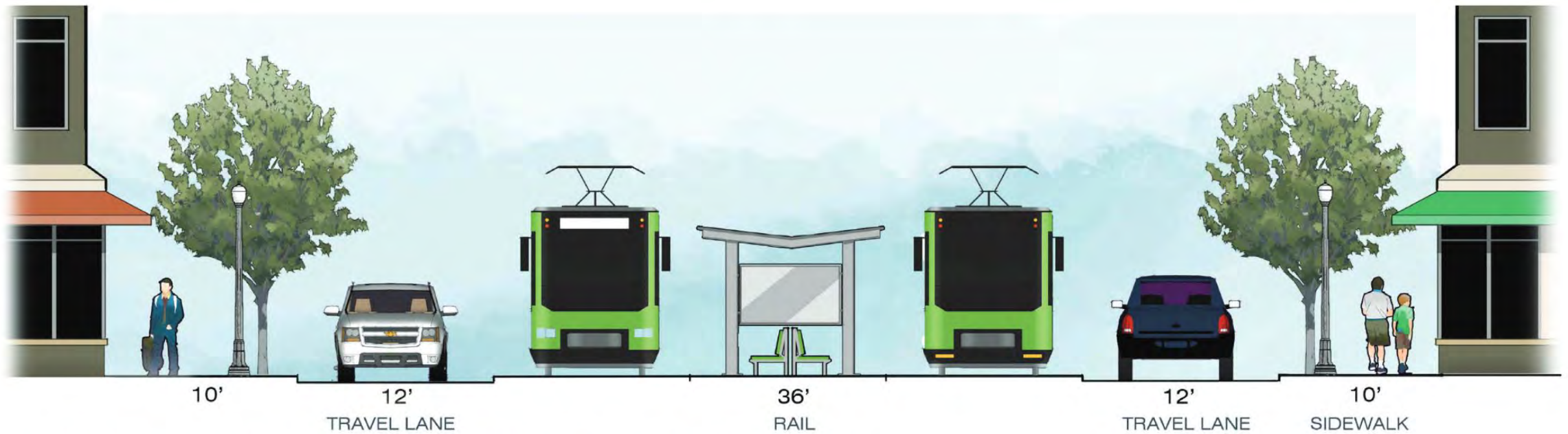


SECTION : SAN PEDRO : HILDEBRAND - BASSE (EXISTING)

San Pedro Avenue, San Antonio (photo: Scott Ball / thank you to Bill Barker)







**SECTION : SAN PEDRO : HILDEBRAND - BASSE (OPTION 1)**

We don't know what people prefer.



We don't know what people prefer.

Health is more than safety.

We don't know what people prefer.

Health is more than safety.

We use what we pay for.



We don't know what people prefer.

Health is more than safety.

We use what we pay for.

The war on congestion cannot be won.

We don't know what people prefer.

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Low tech can be smart too.



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Everyone wants choices.

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When people have good choices,  
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