

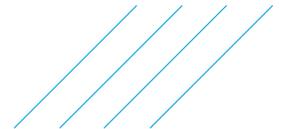
ATKINS

Member of the SNC-Lavalin Group



Applying experiential engagement and ideation to develop
people-focused solutions based on technology and innovation

ITE Western District Annual Meeting – June 25, 2019

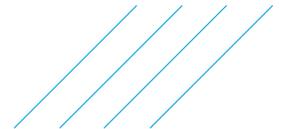


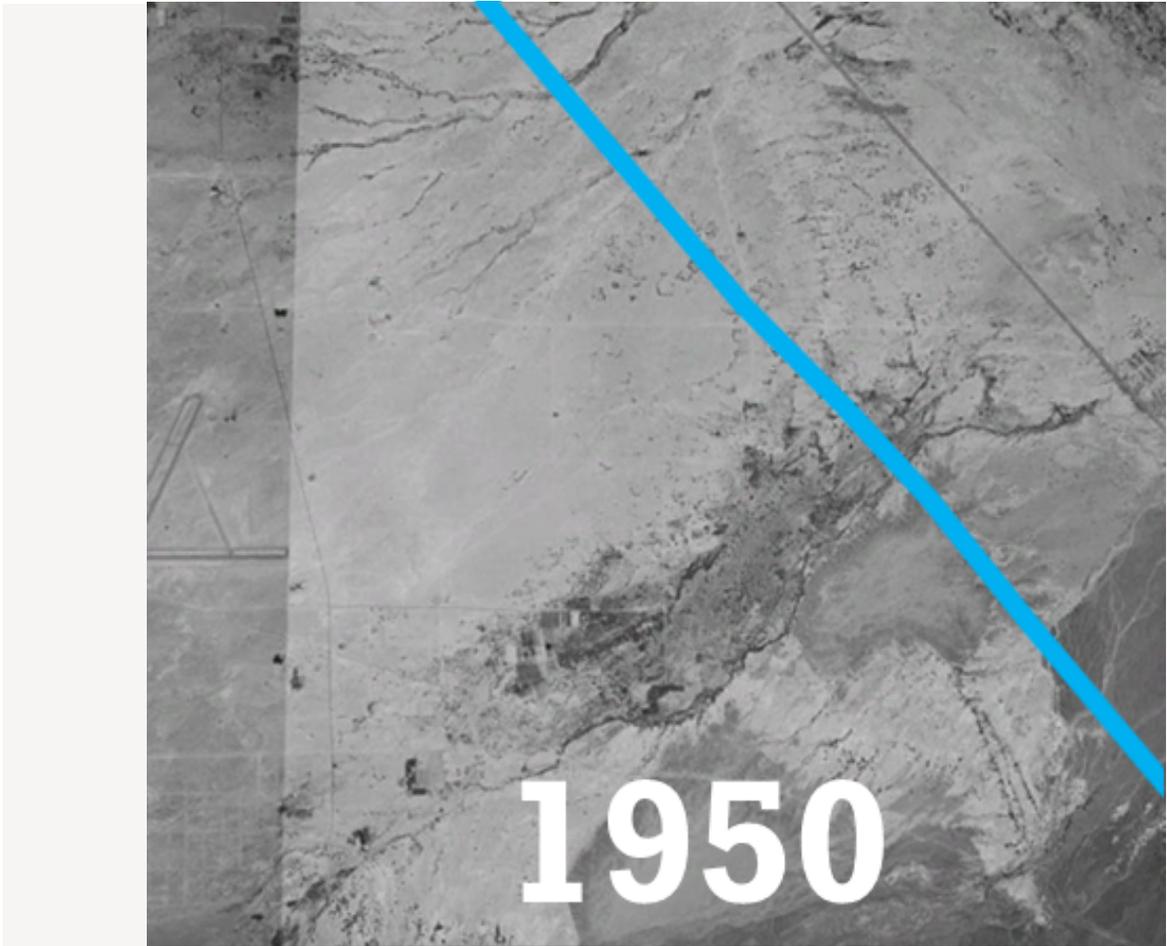
Boulder Highway History



Boulder Highway
1935

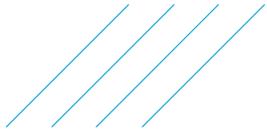
◆ **Primary access** for construction equipment and workers for the construction of Hoover Dam.

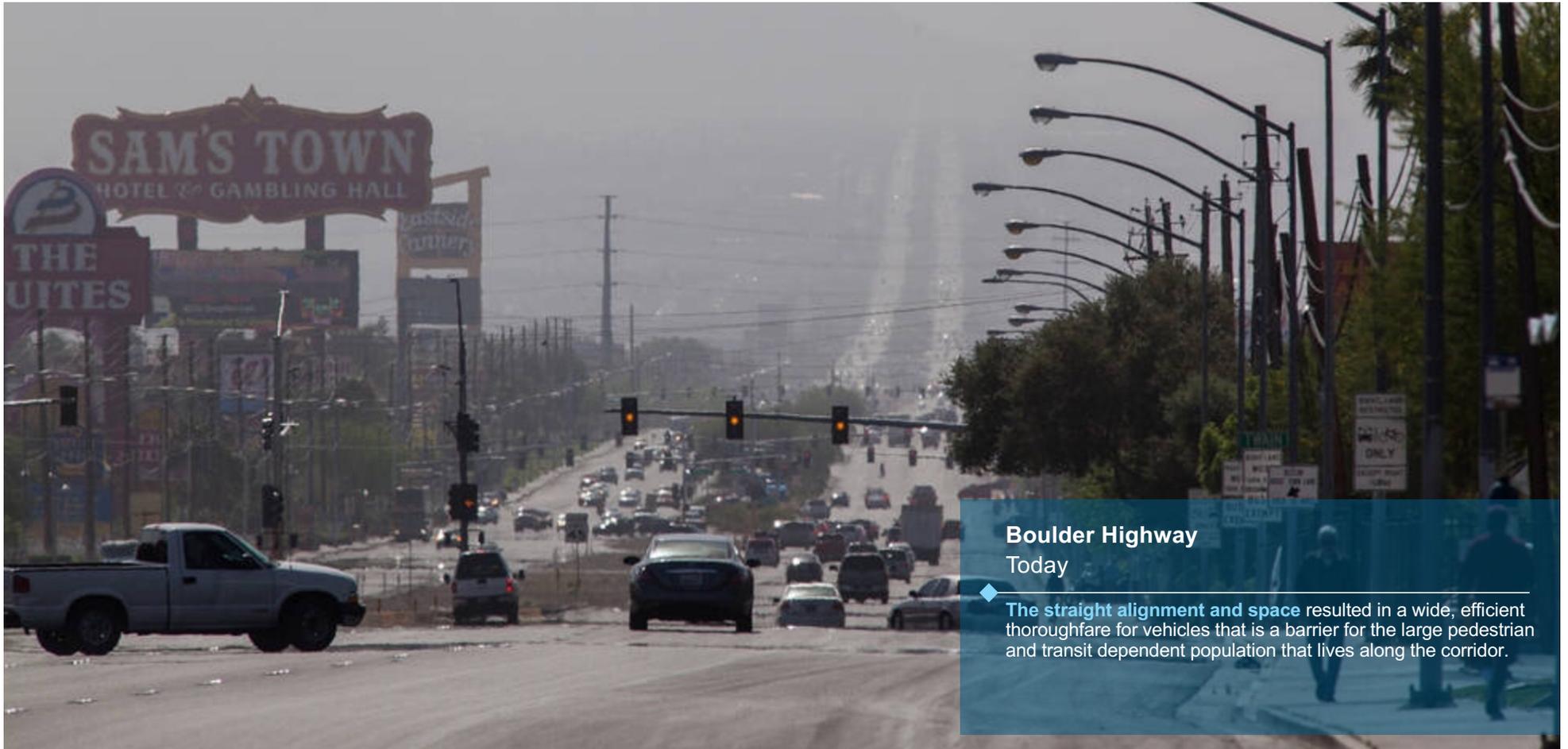




Boulder Highway
Over the years

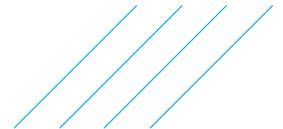
◆ **Alignment** of Boulder Highway retained its original straight utilitarian configuration over the years.

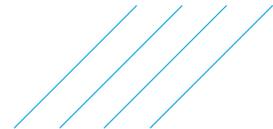
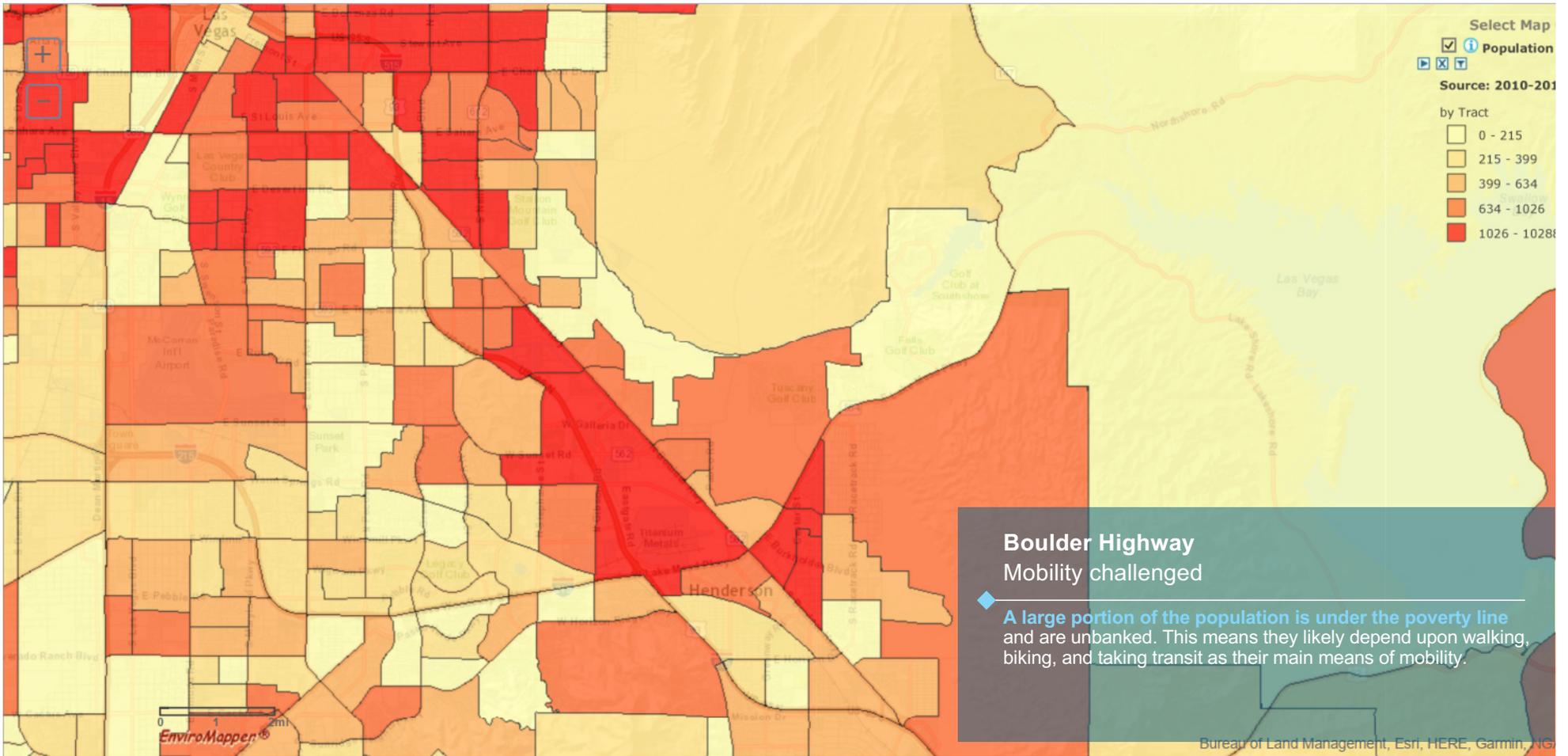


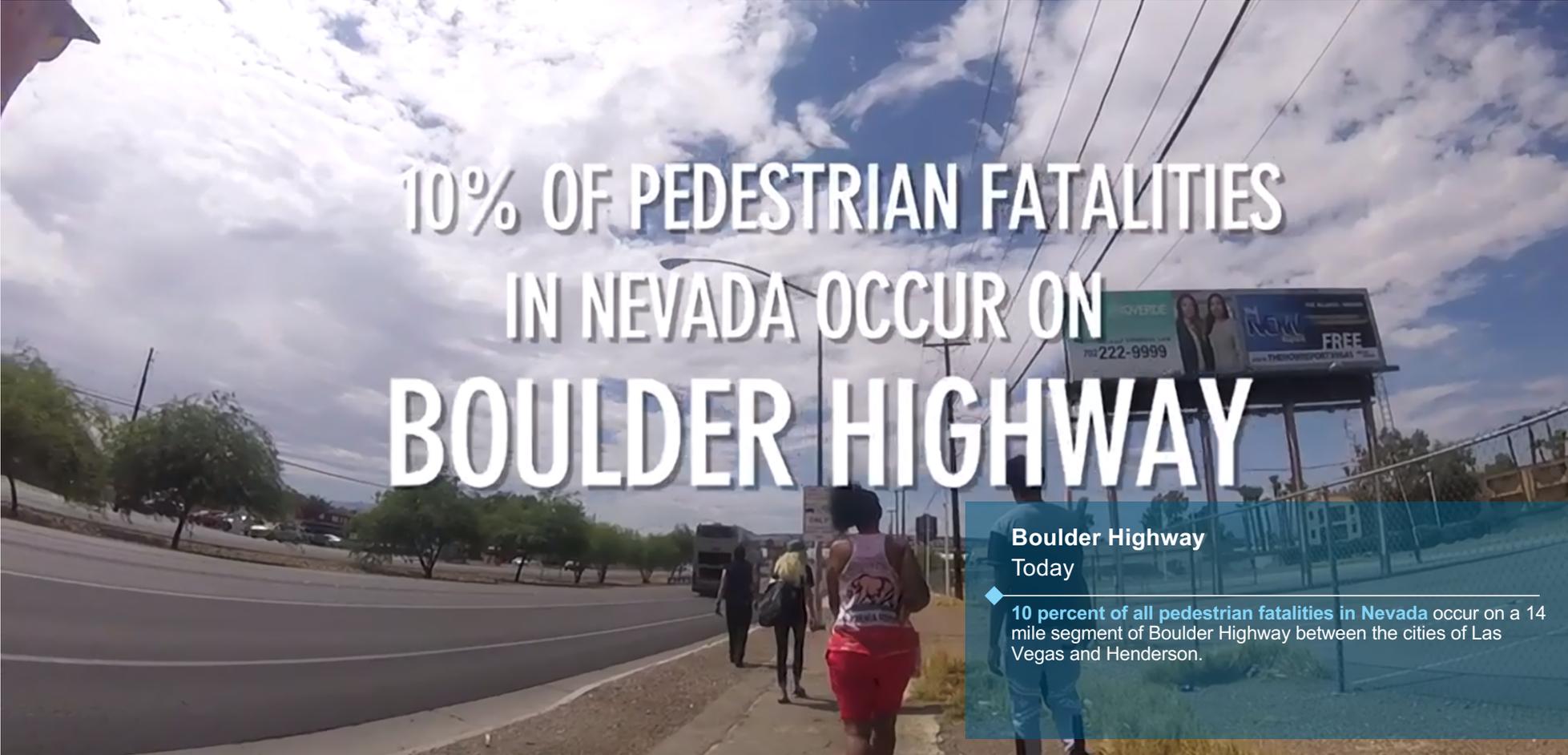


Boulder Highway Today

◆ The **straight alignment and space** resulted in a wide, efficient thoroughfare for vehicles that is a barrier for the large pedestrian and transit dependent population that lives along the corridor.



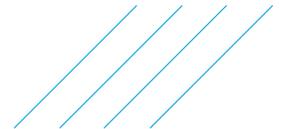




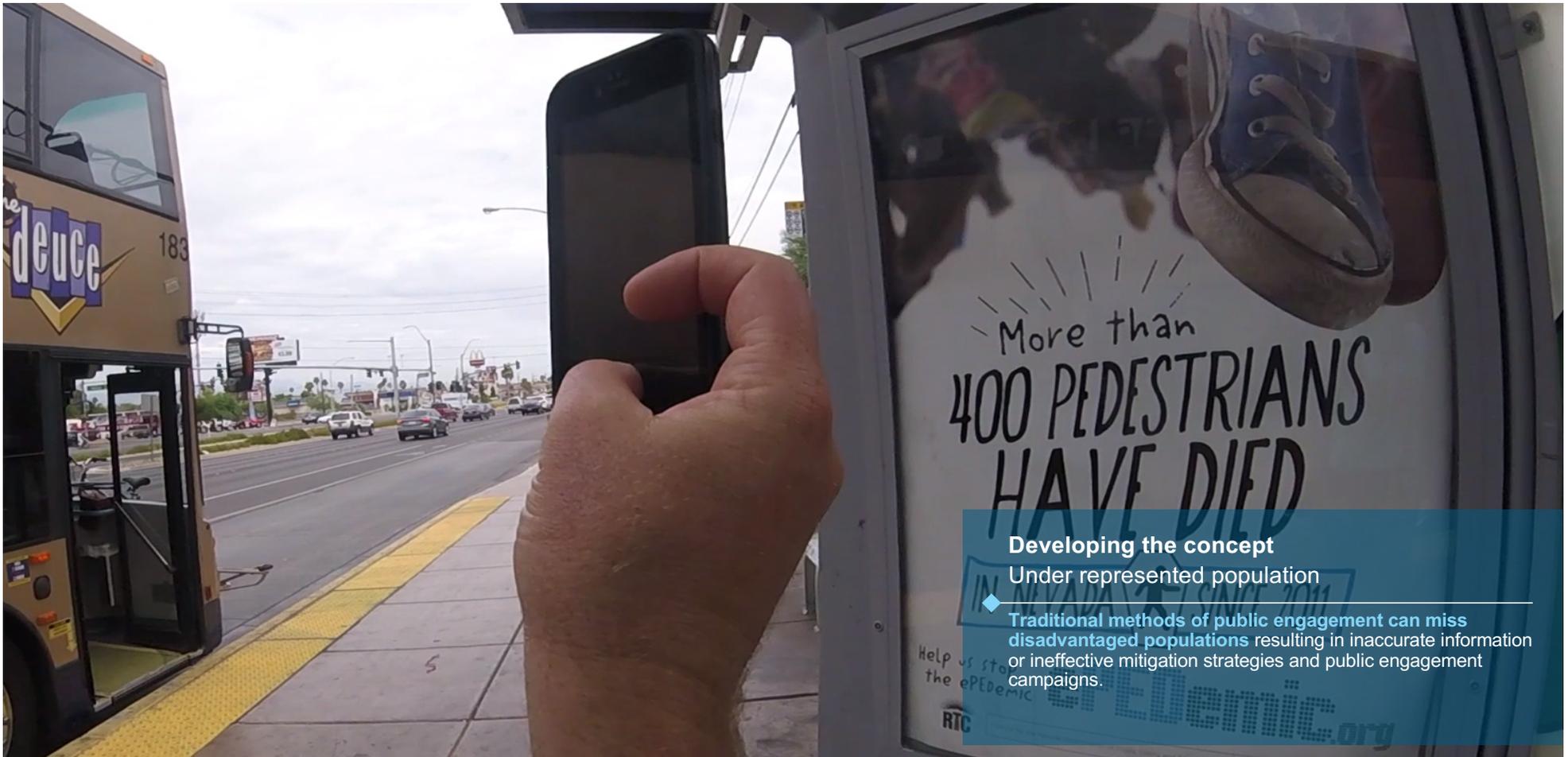
10% OF PEDESTRIAN FATALITIES IN NEVADA OCCUR ON BOULDER HIGHWAY

Boulder Highway Today

◆ 10 percent of all pedestrian fatalities in Nevada occur on a 14 mile segment of Boulder Highway between the cities of Las Vegas and Henderson.



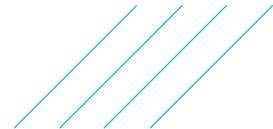
Experiential Engagement



Developing the concept

Under represented population

◆ Traditional methods of public engagement can miss disadvantaged populations resulting in inaccurate information or ineffective mitigation strategies and public engagement campaigns.

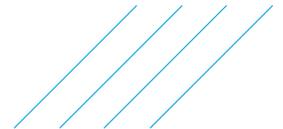




Experiential Engagement

The concept

◆ We wanted to capture what people experience to develop effective solutions. Other methods are more focused on surveys, workshops, open houses, and engineering and planning assessments, and may miss causal factors that influence behaviors.

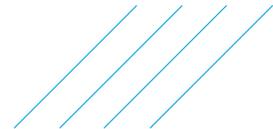




Average Temp:
99°

Experiential Engagement
Real conditions

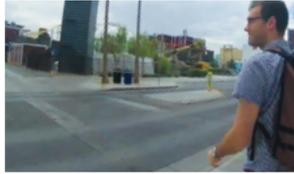
◆ **We developed scenarios** to experience what people along the corridor experience everyday: going to work, shopping, going to a medical clinic, picking up a sick child, etc. and we did them under typical conditions.





TRANSIT STOPS

A transit stop is a hub for mobility and provides pedestrian refuge which can also serve as an information hub. Transit stops on the corridor are not only places where people wait for their next ride, they're also places where people congregate and socialize.



JAYWALKING

Long distances between controlled crossings has resulted in people choosing to jaywalk rather than walk out of their way to get to their destinations. Countermeasures, such as flashing beacons and rectangular rapid flashing beacons (RRFBs) have been added to mid-block crossings yet jaywalking still exists and these treatments have had mixed success in slowing vehicle traffic for crossing pedestrians.



JOURNEY MANAGEMENT

Missing the bus can mean a missed appointment or showing up late to work. Many transit users on the corridor were seen making multi-modal trips and these individuals rely on consistent connections. We saw people jaywalking and running across the street against signal indications to try to make their bus connection.



CONNECTIVITY

Facilities for pedestrians and cyclists were sometimes incomplete; a sidewalk or bike lane would simply end, street furniture and infrastructure sometimes blocked a sidewalk, or ramps and other accessible features were absent or poorly placed. The result was sometimes having to back-track to get to an acceptable facility or take risks to get to a destination.



SHELTER FROM THE ELEMENTS

People walking and biking are more vulnerable to the effects of climate and weather while traveling. Whether hot and humid or during flash flooding events, people traveling the Boulder Highway on foot and bike are susceptible to weather events.



ACCESS TO SERVICES

Pedestrian, bicycle, and transit journeys often take longer than driving a vehicle and are not always close to necessary facilities such as restrooms and water. With users already at a time disadvantage, the need to use such facilities could add significant time and out of direction travel.



How can transit stops be accentuated as mobility hubs, supporting high quality Bus Rapid Transit, providing adequate and equitable traveler information, and enhancing personal security and comfort?



Are there innovative or technology-driven ways to improve direct access for pedestrians so they don't have to walk out of their way or cross unsafely?



Are there innovative or technology-driven solutions that can help people safely and consistently make their transit connections?



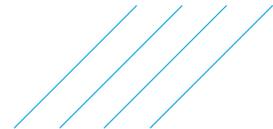
Is there an innovative technology-driven solution that can help pedestrians efficiently navigate infrastructure until completed or improved?



Experiential Engagement

The outcomes

◆ We identified core challenges that all participants experienced and discussed with people during their time on Boulder Highway. These formed the basis for developing innovative and technology focused solutions for the corridor.

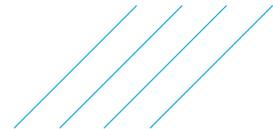


Ideation



Ideation
Global collaboration

◆ We held a global ideation event to develop solutions to the challenges our team developed based on their experiences on Boulder Highway.



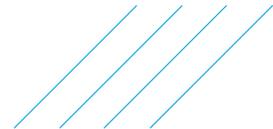
Ideation Event:

Pedestrian Oasis
Sidewalk Markings
Smart Boards
Smart Street Lighting

Ideation

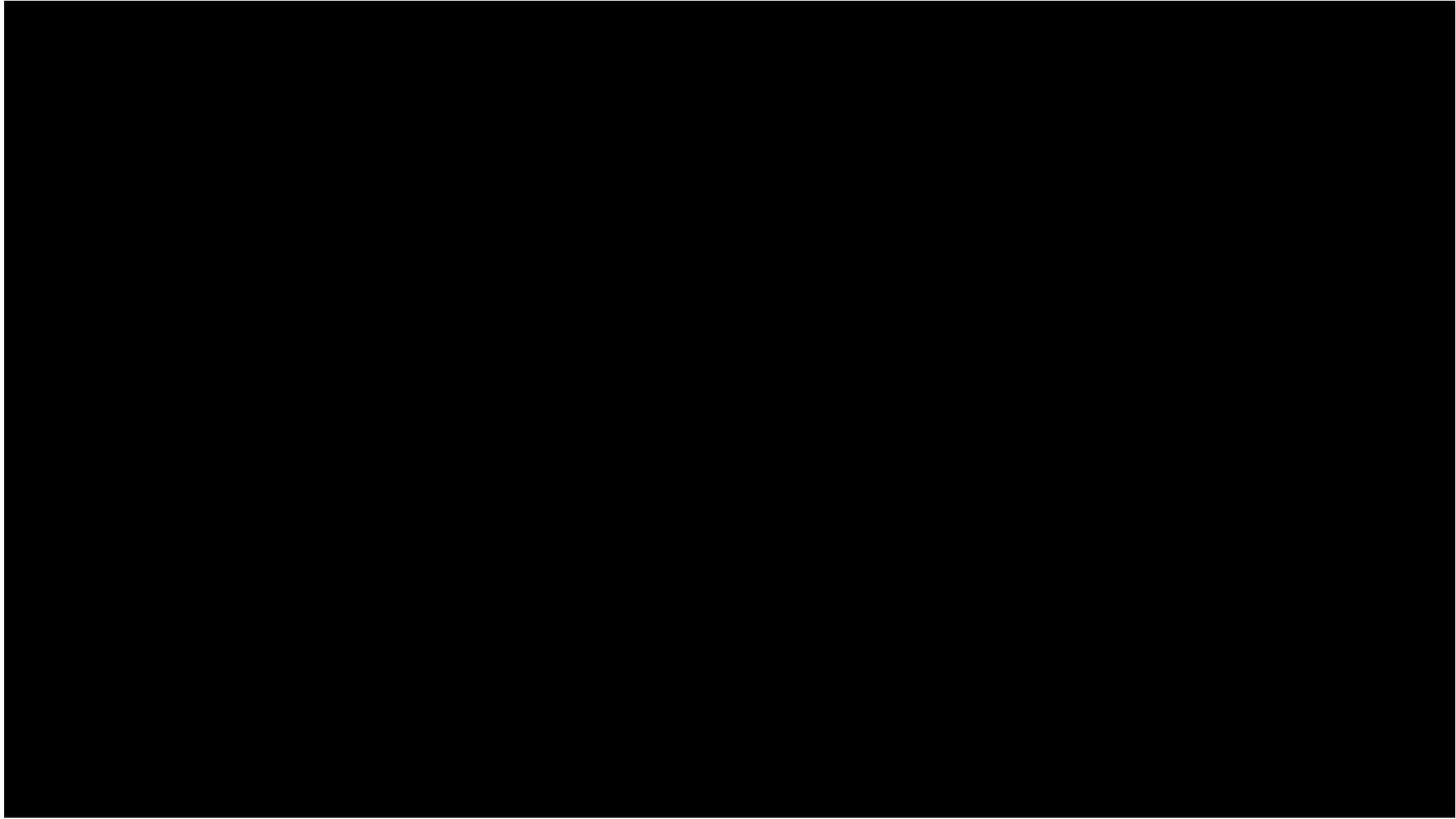
The outcomes

We developed innovative and technology based solutions to address the challenges. The solutions were based on the context of the corridor and the people who use it everyday.



“One of the greatest public works projects ever done”.

- Andrew Bennet, PIO – Nevada Department of Public Safety



Thank you

Jim Hanson

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EMBARK

TO SET OUT ON A COURSE OF ACTION, ESPECIALLY ONE THAT IS IMPORTANT OR DEMANDING.

IMMERSE

TO INVOLVE ONESELF DEEPLY IN A PARTICULAR ACTIVITY OR INTEREST.

ENGAGE

PARTICIPATE, TO TAKE PART IN. ALSO TO ATTRACT SOMEONE'S INTEREST.

INVENT

TO CREATE OR DESIGN INNOVATIVE SOLUTIONS TO CHALLENGING PROBLEMS.

INTELLIGENT
MOBILITY

TAKING SAFETY TO THE STREETS TO DECREASE PEDESTRIAN FATALITIES.

