



A Vision for the Mile High City

Lessons Learned Perspective from Denver, CO

PSU Transportation Engineering & Safety Conference

Thursday December 6, 2018

Rachael Bronson, AICP

What is Vision Zero NOT?

Vision Zero



Pledge to the number 0 and go
back to business as usual

What is Vision Zero NOT?

Vision Zero



Zero Crashes

What is Vision Zero?

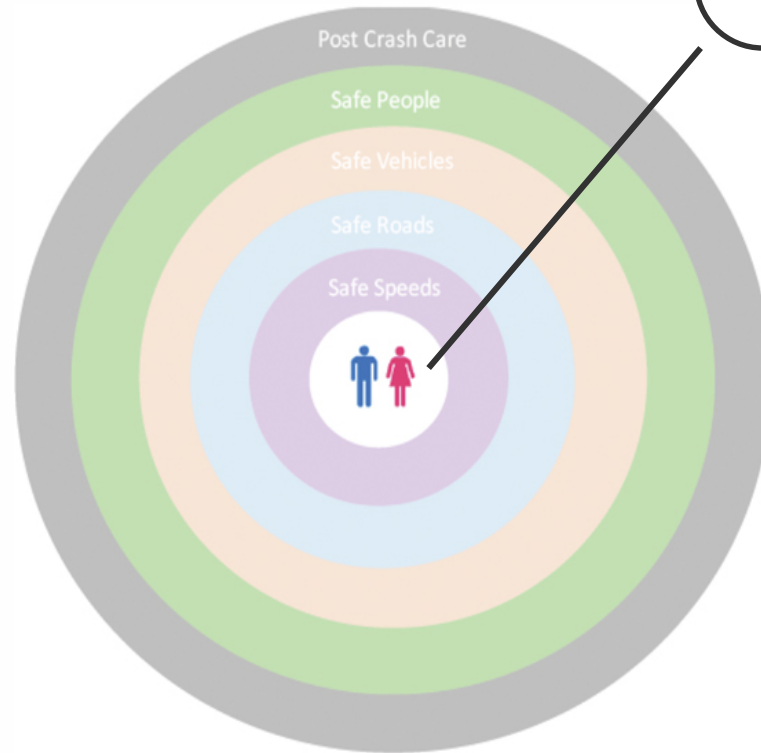
“Vision Zero should be seen as a vision based on an **ethical foundation**, creating and supporting a totally new perspective, a **paradigm shift**, on the road safety problem and the approach to solve it.”

-Peter Larsson, Senior Advisor, Swedish Transport Agency

Safe, Forgiving System



- ✓ Informed
- ✓ (mostly) Compliant
- ✓ Make Errors
- ✓ Physically Vulnerable



Source: Towards Zero Foundation

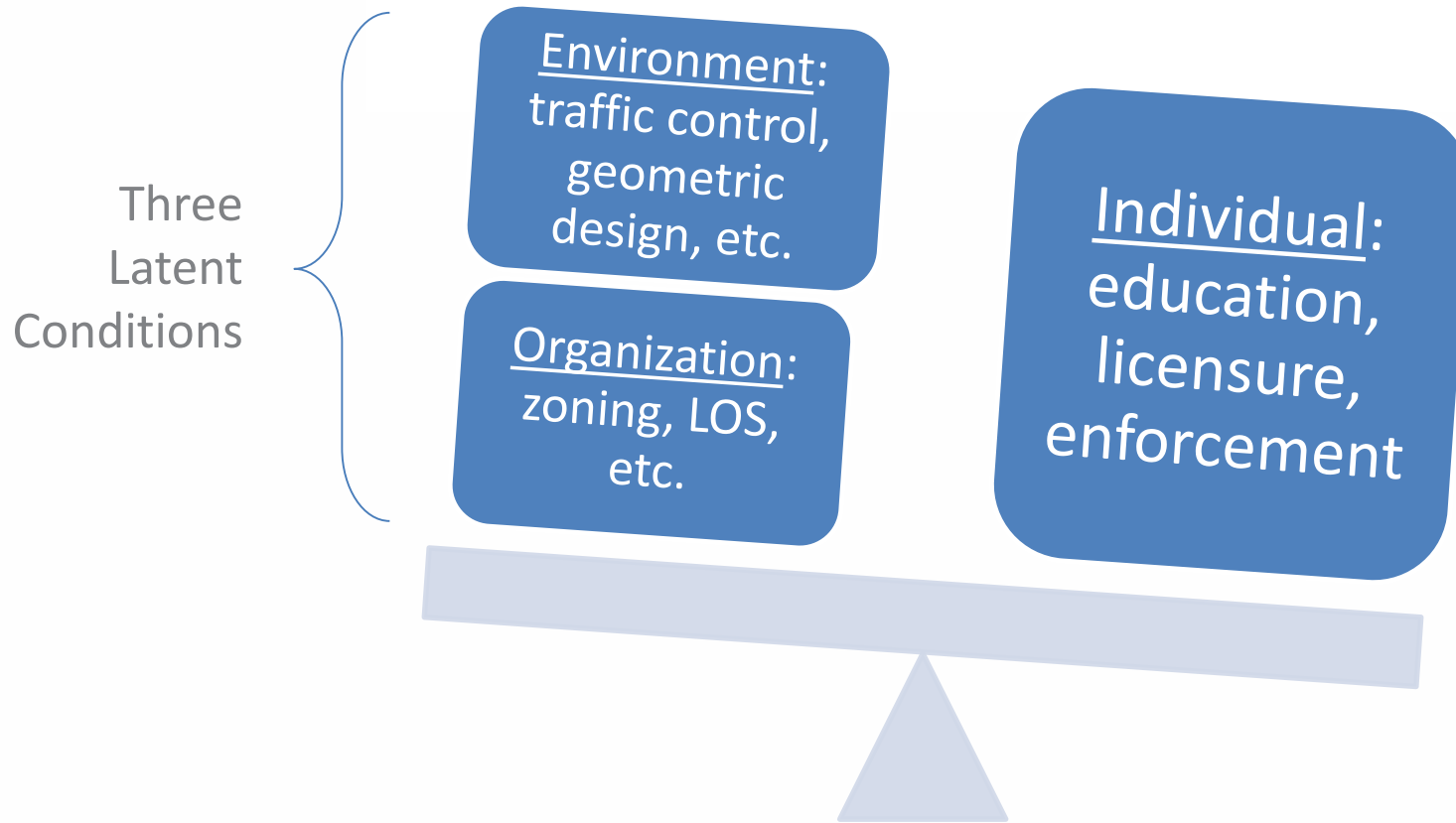
Collective 2 acts of failure

- » Active: the crash
- » Latent
 - Dormant conditions
 - Independent of safety but have safety outcomes
 - Three primary latent conditions

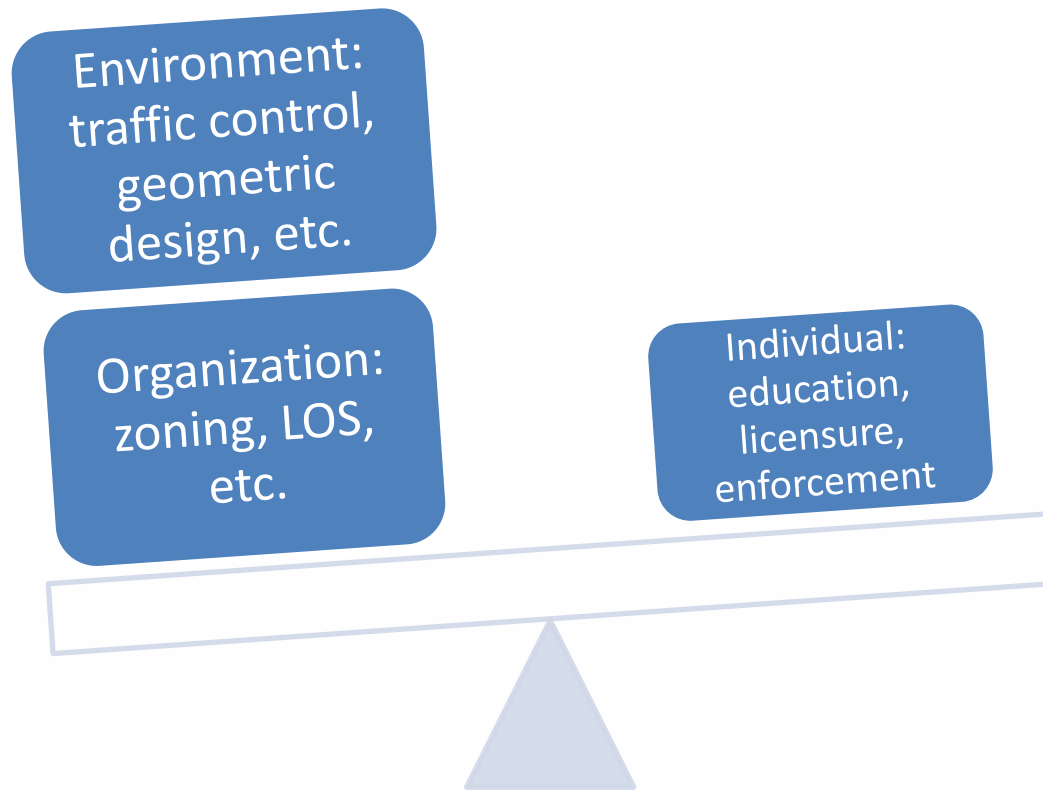


Source: R Bronson

Historical Approach



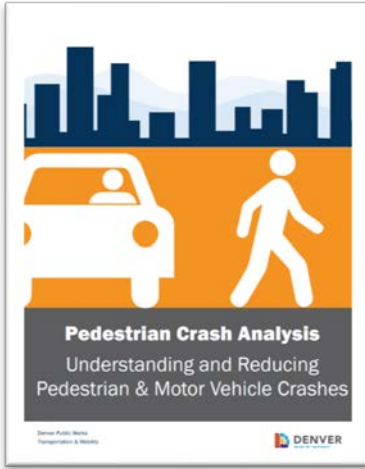
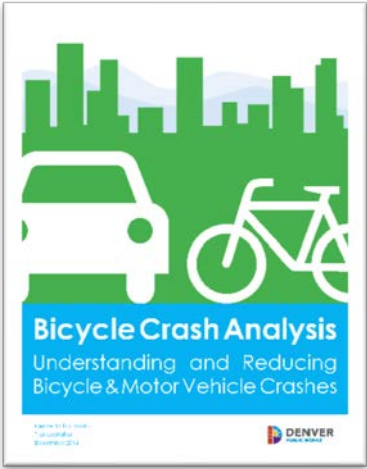
Systematic Safety Approach





Denver's Vision Zero Action Plan

Evolution of Safety Programs



Prep Work

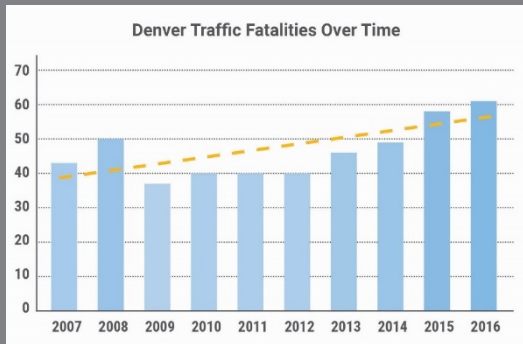
- » Coalition building
 - Technical Advisory Committee
 - Vision Zero Network
 - Vision Zero Coalition
- » Marketing and branding
- » Establish web presence



Source: R Bronson

Action Plan Journey

Data Analysis & Best Practice Review



Partner Discussions



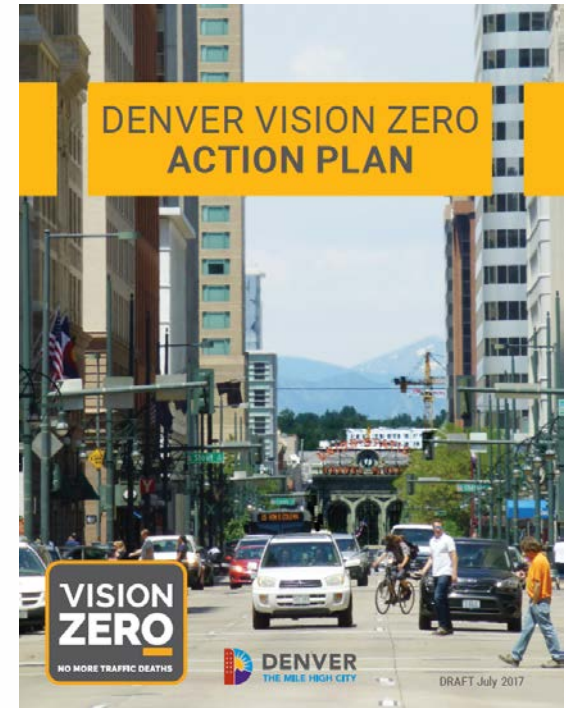
Community Engagement



Let's Take Action

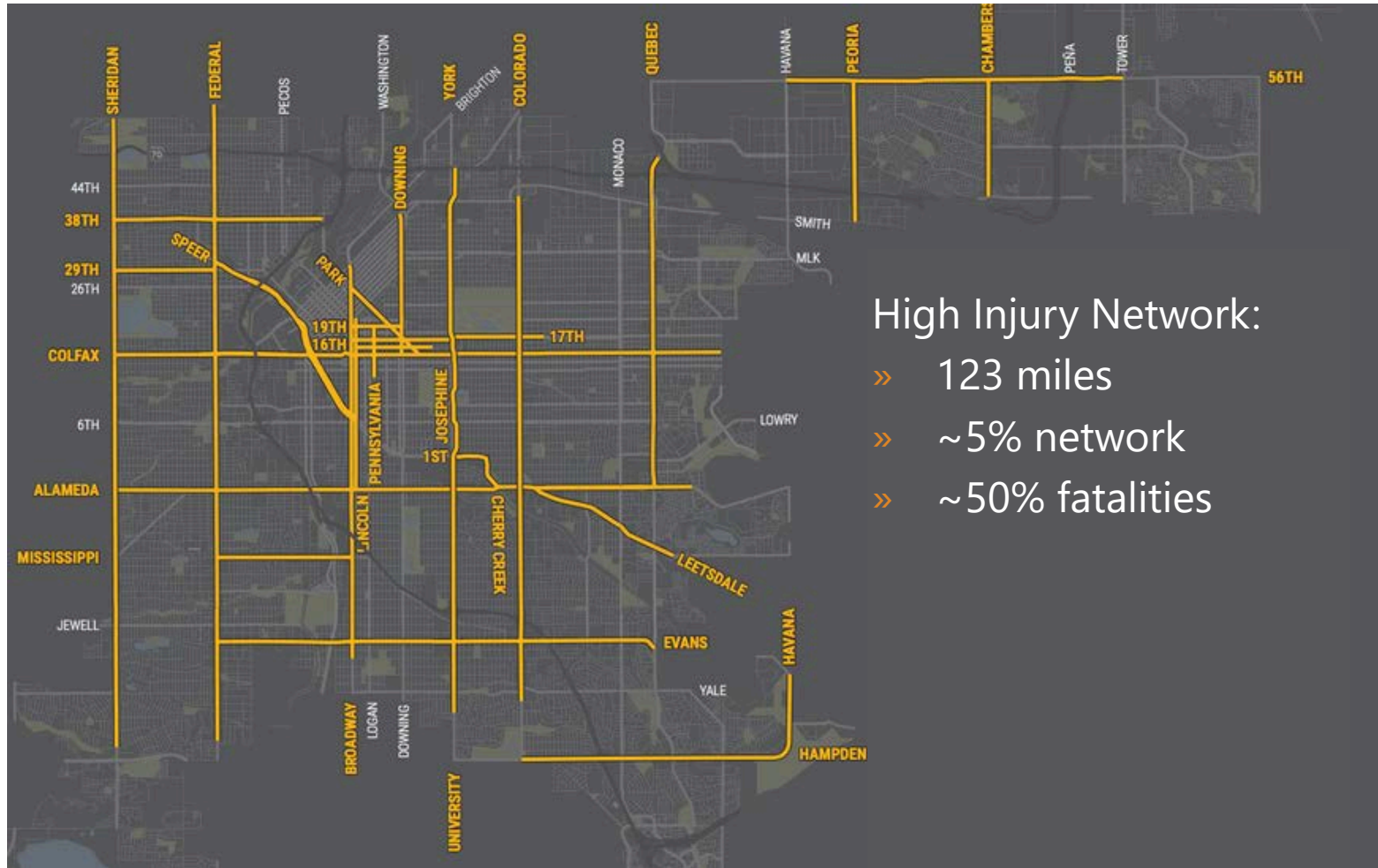
5-year Action Plan for eliminating traffic deaths and serious injuries by 2030.

- » Enhance Processes and Collaboration
- » Build Safe Streets for Everyone
- » Create Safe Speeds
- » Promote a Culture of Safety
- » Improve Data and Be Transparent



Focusing efforts on the most dangerous streets and in the most vulnerable communities is a responsible use of limited City resources.

High Injury Network



High Injury Network:

- » 123 miles
- » ~5% network
- » ~50% fatalities

Communities of Concern



Places of :

- » High speeds
- » Lower income and education levels
- » Closer proximity to schools and community centers
- » Larger populations of elderly, disabled, people with obesity and households with no vehicle ownership

Communities of Concern

Traffic crashes disproportionately impact Communities of Concern.

We committed to:

- » Work with community members to ID solutions
- » Focus on street design changes
- » Automated speed enforcement
- » Diversion program instead of increasing traffic fines



Source: Denver Streetsblog



Implementation

Rapid Response

- » Team meets following a fatal crash
- » Purpose: assess & recommend
- » Membership:
 - Public Works
 - Police
 - Health
 - Community
 - State DOT
 - Regional transit authority

Rapid Response

- » Enforcement report on nature of crash
- » Field assessment of existing conditions
- » Group recommendations
 - Immediate
 - Near-term
 - Mid-term
 - Long-term
- » Important considerations
 - Time of day/lighting

Rapid Response

Project Examples

» Immediate:

- Cut back tree limbs
- Collect data (set up cameras mid-block)

» Near-term:

- Enhance existing signage
- LPI or all pedestrian phasing
- Community outreach

» Mid-term:

- Install new HALO cameras
- Striping improvement

» Long-term:

- Capital improvement

Rapid Response

Project Examples



Source: City & County of Denver

Bike/Ped Safety Projects

- » 5 areas citywide
- » Highest concentration of bicycle and pedestrian crashes
- » Extensive data collection
- » Identify short- and long-term implementable projects

Bike/Ped Safety Projects

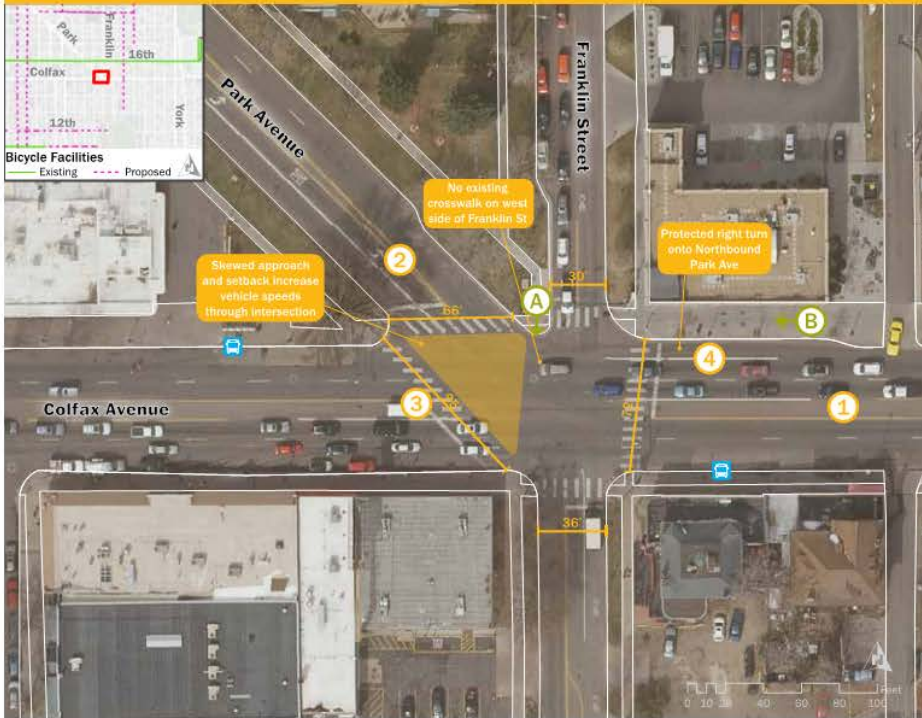


COLFAX AVENUE & PARK AVENUE/FRANKLIN STREET - EXISTING CONDITIONS

Vision Zero: Intersection Improvement Designs



EXISTING CONDITIONS



ISSUES

- Five-leg intersection contributes to complex pedestrian and vehicular movements and unexpected intersection operations
- Longer crossing wait times lead to more aggressive pedestrian crossing behavior

OPPORTUNITIES

- Key bicycle connection between 16th Avenue and Cheesman Park highlights importance of providing improved bicycle accommodations along Franklin Street
- Intersection geometry allows for possible curb extensions to reduce pedestrian crossing distances
- Opportunity to close left turn lanes on Colfax Avenue and provide median islands due to low left turn volumes



- Existing Speed Limit: 30 MPH
- **25% of vehicles were speeding** between 8:00PM and 2:00AM when the majority of the crashes occurred



- Five-legged intersection creates atypical pedestrian and vehicular signal phasing and geometry



- West leg 95 foot pedestrian crossing and 1m24s wait between cycles may contribute to impatient pedestrians crossing against the signal



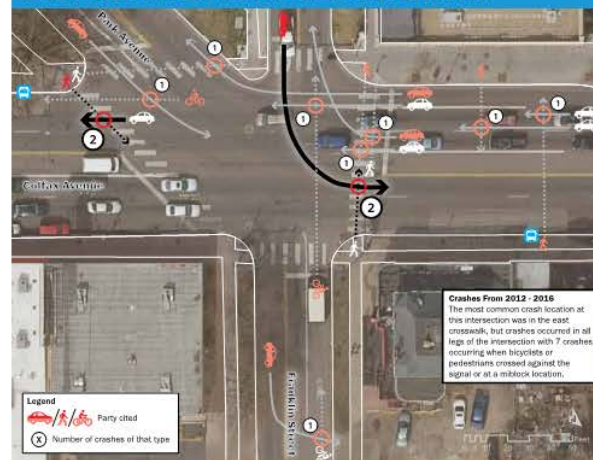
- Observed driver and pedestrian confusion about westbound right turn signal phase onto Park Avenue

PEDESTRIAN & BICYCLE PERSPECTIVES



A North pedestrian island looking south across Colfax Avenue

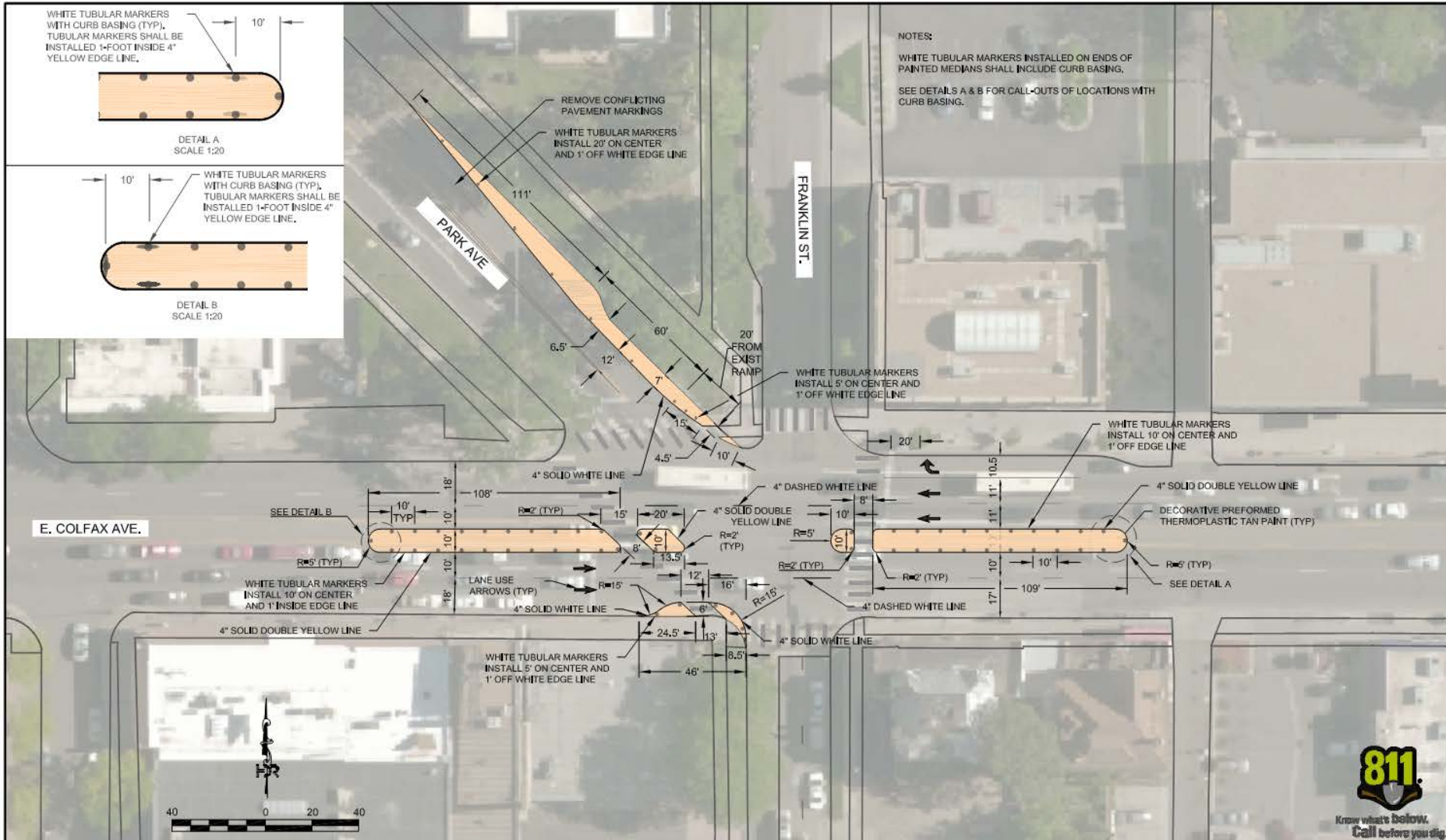
PEDESTRIAN & BICYCLE CRASH MAP



B Colfax Avenue looking towards northeast corner of intersection

*This diagram does not include every crash as some detailed crash reports were not available

Bike/Ped Safety Projects



Print Date: 9/5/2017

File Name: [Blank]

Horiz. Scale: 1/40

Vert. Scale: N/A

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Sheet Revisions		
Date	Comments	Init.

DEPARTMENT OF PUBLIC WORKS

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PHONE: (720) 913-4501
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As Constructed
No Revisions
Revised:
Vold:

FRANKLIN ST./COLFAX AVE./PARK AVE
IMPROVEMENT PLAN

Designer: R. PLENGE
Detailer: D. PARKER

Structure Numbers: [Blank]

Sheet Subset: [Blank]

Subset Sheets: 1 of 2

Project Number
PQ01516 000

Sheet Number
1

Know what's below.
Call before you dig.

Bike/Ped Safety Projects



Betfere

Source:
City &
County of
Denver

Bike/Ped Safety Projects



Source: Denver Streetsblog



How Do I Use this Information?

How to Use This Information

- » Systematic safety as the foundation

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- » Turn defeat into empowerment

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- » **Prioritize: HIN & CoC**

How to Use This Information

- » Systematic safety as the foundation
- » Turn defeat into empowerment
- » Collaborate across agencies on budget requests
- » Lean in to your community partners
- » Get creative
- » Prioritize: HIN & CoC
- » **Don't forget your call to action**

Don't Forget Your Call to Action

- » Someone loses their life every six days while travelling in Denver

In Denver, compared to a motorist:



Pedestrians are approximately **30 times** more likely to die in a crash

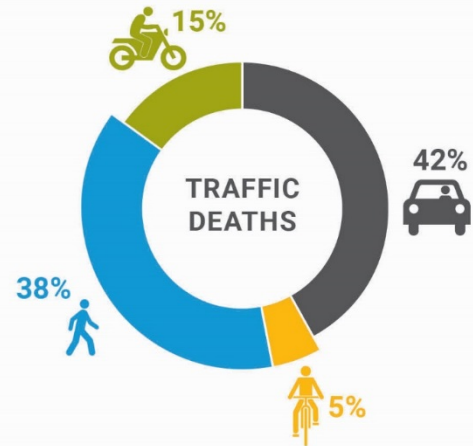
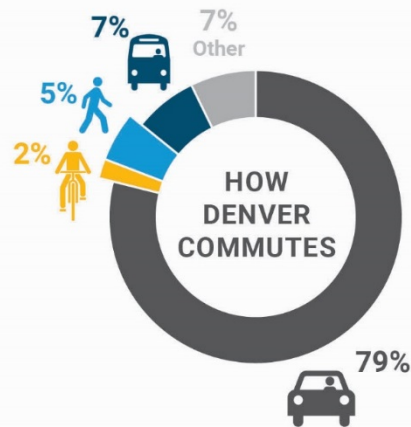


Motorcyclists are nearly **13 times** more likely to die in a crash



Bicyclists are **6.5 times** more likely to die in a crash

Denver traffic modes versus traffic deaths:





Moving *Forward* **Together**

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