BOUNCE FORWARD
BUILDING THRIVING, HEALTHY, & EQUITABLE COMMUNITIES
MARCH 4 & 5, 12, 19, 25 & 26
Transit, Mobility and Equity: A Way Forward
Susan A. Wood
Regional Transportation Authority (RTD)
Panelists

Christof Spieler
Huitt-Zollars

Beth Osborne
Transportation for America

Eulois Cleckley
Denver Department of Transportation and Infrastructure
“...urban design is **not neutral**. It either perpetuates or reduces social inequities within cities. And that is very hard for people to wrap their minds around because urbanists are taught that they are good, that they make communities better, and that they are the **bringers of solutions**.”

- Jay Pitter
  @Jay_Pitter
Railroad infrastructure has placed disproportionate impacts on Black and Hispanic neighborhoods.
Texas found a cancer cluster in Houston in August. Residents didn’t find out until December.

Erin Douglas | Dec. 11, 2019 | Updated: Dec. 11, 2019 2:54 p.m.
Highways were built through Black and Hispanic neighborhoods to enable White suburban commuters to pass through quickly.
Houston Freeway Construction Timeline (inside 610)

- IH45 Gulf Freeway
- US59 Eastex Freeway
- IH610 Loop
- IH45 North Freeway
- Downtown freeway loop
- TX288 South Freeway
- US59 Southwest Freeway
- IH10 East Freeway
- IH10 Katy Freeway

Timeline:
- 1940
- 1950
- 1960
- Voting rights act
- NEPA
- 1970
- 1980
Construction of I-45 elevated
Traffic enforcement has long been used to harass people of color.
Inside 100 million police traffic stops: New evidence of racial bias

Stanford researchers found that black and Latino drivers were stopped more often than white drivers, based on less evidence of wrongdoing.
L.A. Sheriff's Deputies Fatally Shoot Black Man After Suspected Bike Violation

By Reuters, Wire Service Content  Sept. 1, 2020

Demonstrators protest against the shooting of Dijon Kizzee by Los Angeles sheriff's deputies, in Los Angeles, California, U.S., September 1, 2020.

REUTERS/ Patrick T. Fallon

BY LUCY NICHOLSON AND Steve Gorman

A 29-year-old man was stopped on his bicycle for an alleged "vehicle code" violation was fatally shot by Los Angeles sheriff's deputies on Friday, according to authorities.

The shooting took place in South Los Angeles around 4:30 p.m., the Los Angeles County Sheriff's Department said in a statement.

The man, identified as Dijon Kizzee, was pronounced dead at a hospital. The sheriff's department said it was investigating the shooting, which occurred during a traffic stop.

"On arrival, deputies were attempting to effect an arrest for an alleged vehicle code violation. During this attempt, deputies discharged their firearms," the statement said.

The department did not release the identity of the deputies involved in the shooting or provide further details about the investigation.

Kizzee's death marks the second deadly police shooting in Los Angeles in less than a week. On July 27, an unarmed man was shot and killed by deputies during a traffic stop in South Los Angeles.

The latest shooting comes amid a national conversation about police use of force, particularly against Black Americans. The Los Angeles County Sheriff's Department has faced criticism in recent years for use of force and excessive force incidents.

The department has implemented several reforms in response to the criticism, including requiring deputies to undergo de-escalation training and creating a use-of-force task force.

However, the department has also come under scrutiny for its handling of several high-profile cases, including the death of George Floyd, a Black man killed in Minneapolis police custody in May.

Floyd's death sparked nationwide protests and a reexamination of police policies and practices.

Los Angeles County Sheriff Alex Villanueva, who has been in office since 2018, has said he is committed to reforming the department and ensuring accountability.

The sheriff's department declined to comment on the latest shooting, citing the ongoing investigation.
The lack of safe pedestrian infrastructure is killing Blacks, Hispanics, and Native Americans.
FIGURE 6
Annual pedestrian fatalities per 100,000 people by race/ethnicity (2005-2014)

Graph: Smart Growth America
Many agencies have essentially built and operated two systems with different standards for amenities, service levels and levels of subsidy.
Park and Ride:
- 30 min
- Managed lanes
- Plush seats
- Canopies at stops
- $3.25
- 60% White

Local:
- 90 min
- Mixed traffic
- Hard seats
- No shelters at stops
- $1.25
- 60% Black
CHOICE RIDER | DEPENDENT RIDER
COLFAK BUS
10.5 miles
125,000 people within 1/2 mile
22,000 riders/day
52% white

E/F/R LIGHT RAIL (south of Bellevue)
8.75 miles
9,932 people within 1/2 mile
8,000 riders/day
73% white
<table>
<thead>
<tr>
<th>Service</th>
<th>Productivity</th>
<th>Service Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ST Express</strong>&lt;br&gt;Fast, frequent regional bus service&lt;br&gt;(see page 15)</td>
<td></td>
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</tr>
<tr>
<td>- Monitored regularly and reported annually with a comparative analysis of each route's performance and a peer comparison analysis</td>
<td>- Standing passengers not to exceed 1.23 - 1.5 times total seats and limit standing time to 30 minutes</td>
<td>- 85% of trips arrive within five minutes of schedule, never early</td>
</tr>
<tr>
<td>- Annual targets are adjusted accordingly</td>
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<tr>
<td><strong>Sounder</strong>&lt;br&gt;High capacity commuter rail&lt;br&gt;(see page 19)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Monitored regularly and reported annually with a peer comparison analysis</td>
<td>- Most riders have a seat, otherwise limit standing time to 30 minutes</td>
<td>- 95% of trips arrive at route terminals within seven minutes of schedule</td>
</tr>
<tr>
<td>- Annual targets are adjusted accordingly</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tacoma Link</strong>&lt;br&gt;Light rail with multi-modal connections&lt;br&gt;(see page 21)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Monitored regularly and reported annually with a comparative analysis by time of day and a peer comparison analysis</td>
<td>- Standing passengers permitted up to 1.86 times number of seats</td>
<td>- 98.5% of trips depart/arrive route terminals within three minutes of schedule</td>
</tr>
<tr>
<td>- Annual targets are adjusted accordingly</td>
<td></td>
<td></td>
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<tr>
<td><strong>Link</strong>&lt;br&gt;Frequent, reliable high-capacity light rail&lt;br&gt;(see page 24)</td>
<td></td>
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<tr>
<td>- Monitored regularly and reported annually with a comparative analysis by time of day and a peer comparison analysis</td>
<td>- Standing passengers not to exceed two times number of seats and limit standing time to 30 minutes</td>
<td>- 90% of headways within two minutes of schedule</td>
</tr>
<tr>
<td>- Annual targets are adjusted accordingly</td>
<td></td>
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</tr>
</tbody>
</table>
WALNUT CREEK / PLEASANT HILL
70% white
1.75 miles between stations

SAN ANTONIO, OAKLAND
10% white
2.75 miles between stations
We manage, operate, and police transportation systems to promote “white comfort.”
“I think the entire field of transportation and urban planning is a host to white comfort.”

-Dr. Destiny Thomas
The Thrivance Group
@DrDesThePlanner
‘Addicts, crooks, thieves’: the campaign to kill Baltimore's light rail

Residents of a progressive and wealthy county claim public transport has brought city crimes to their area - and are fighting to have it closed.

Kim Hahn wants a nearby light rail stop closed after she and her husband, Chris, found an intruder in their home in Glen Burnie, Maryland, last year. Photograph: JM Giordano/The Guardian

Lucia Graves in Glen Burnie, Maryland

@lucia_graves

Wed 22 Aug 2018 06.30 EDT

Chris and Kim Hahn
Subway crime remains at record-low levels.

So it was confusing that the Metropolitan Transportation Authority board voted this week to hire 500 additional police officers to patrol the subway and other parts of the transit system, diverting an estimated $250 million over four years in precious funds that
Code of Conduct Enforcement by Race
2018-2019

12% of riders are Black
50% of citations are Black
The era of the re-segregationist response to the civil rights movement has shaped how we think about cities and how we talk about transportation.
Transit systems have racism built into their schedules, their fleets, their route structures and their infrastructure.
“...when you look at transportation or you look at built environments, what you realize very quickly is that the systems are designed exactly how the people in power wanted them to be designed, and they are working.”

-Tamika Butler
@TamikaButler
Heavily white areas are overrepresented on the body that makes federal transportation funding decisions in Houston.
Every transit line, every bit of infrastructure, every bus that runs down a street and every train that runs down a track does so in pursuit of a motive.
“Streetcars in other cities have been shown to bring new people to an area. Streetcars attract people who don’t ride buses. They are popular with young professionals, who tend to live in and near urban areas.”
Opened: 2016
Last Expanded: N/A
Length: 2 miles
Stations: 9
Frequency: 12–15 min
Avg weekday ridership: 1,300
Ridership per mile: 650
This streetcar is designed to gentrify.
Transportation can absolutely be a powerful tools for equity, opening up a metropolitan area — and its jobs and opportunities — for all of its residents.
METRONext:
Rail+BRT link Black and Hispanic neighborhoods to jobs and education

BOOST improves local bus routes with shelters, service, speed, reliability

Regional express service integrated with local network for reverse commutes and faster trips

Accessibility improvements across the network

CHRISTOF SPIELE, www.trainsbutnotpeople.org
To build more equitable networks, we need equitable decision-making.
To build more equitable networks, we in the transit world have to be thoughtful about what we do.
We can’t rely on rules to get equity.
subject to this requirement are responsible for complying with the DOT Title VI regulations which prohibit disparate impact discrimination, and therefore should review their policies and practices to ensure their service and fare changes do not result in disparate impacts on the basis of race, color, or national origin.

To further ensure compliance with 49 CFR Section 21.5(b)(2), 49 CFR Section 21.5(b)(7), and Appendix C to 49 CFR part 21, all providers of public transportation to which this Section applies shall develop written procedures consistent with this Section to evaluate, prior to implementation, any and all service changes that exceed the transit provider’s major service change threshold, as well as all fare changes, to determine whether those changes will have a discriminatory impact based on race, color, or national origin. The written procedures and results of service and/or fare equity analyses shall be included in the transit provider’s Title VI Program.

One purpose of conducting service and fare equity analyses prior to implementing service and/or fare changes is to determine whether the planned changes will have a disparate impact on the basis of race, color, or national origin.

The typical measure of disparate impact involves a comparison between the proportion of persons in the protected class who are adversely affected by the service or fare change and the proportion of persons not in the protected class who are adversely affected. The comparison population for a statistical measure of disparate impact is all persons who are affected by the service or fare changes or who could possibly be affected by the service or fare change (e.g., potential passengers). When a transit provider uses ridership as the comparison population, the transit provider will compare the ridership of the affected route(s) with the ridership of the system. For example, if the ridership of affected route(s) is 60 percent minority and the system ridership is 40 percent minority, then changes to the route(s) may have a disparate impact. When a transit provider uses the population of the service area.
<table>
<thead>
<tr>
<th>Mode</th>
<th>Major Service Change Policy</th>
</tr>
</thead>
</table>
| **Core Bus** | • Alteration of a route’s revenue miles or revenue hours on a given service day by 25 percent or more, including establishment or abandonment of a route.  
• Change to the span of service on a route by 90 minutes or more on a given service day. |
| **Commuter Bus** | • Alteration of a route’s revenue miles or revenue hours on a given service day by 25 percent or more, including establishment or abandonment of a route.  
• Change to the span of service on a route by 90 minutes or more on a given service day.  
• Elimination of service to a stop, unless there is another stop within three miles of its location.  
• Establishment of a new stop. |
| **MARC**     | • Alteration of a line’s revenue miles or revenue hours on a given service day by 25 percent or more, including establishment or abandonment of a line.  
• Change to the span of service on a line by 90 minutes or more on a given service day.  
• Change to the number of stops at a station on a given service day by 25 percent or more.  
• Establishment or abandonment of a station. |
| **Light RailLink** | • Alteration of a line’s revenue miles or revenue hours on a given service day by 25 percent or more, including establishment or abandonment of a line. |
We have to reject “we’ve always done it that way” as an answer.
We have to recognize that transportation fits into larger systems.
We have to be willing to call out decision-makers.
We have to listen to all riders.
We all have to be willing to talk about race.
Christof Spieler, PE, LEED AP
Director of Planning
Huitt-Zollars

cspieler@huit-zollars.com
@christofspieler

Follow:
@Jay_Pitter
@TamikaButler
@DrDesThePlanner
Inequities of the Early Highway Program
Interstate completed, neighborhoods gone.

(photo courtesy of @atlurbanist via twitter)
Kansas City — Bruce R. Watkins Highway

Completed in 2002 through Ivanhoe neighborhood
(photo courtesy of @JSchnauzer via twitter)
Inequities of Current Transportation Program
2010-2019: historic increase in fatalities

- **45 percent** increase in people struck and killed while walking.
- **53,435** people were hit and killed by drivers.
- More than **17 people** killed per day in 2019.
- **It is trending worse almost everywhere:** Since our 2019 report **49/50** states and **84/100** metro areas got worse.
People of color are disproportionately represented.

Relative pedestrian danger by race and ethnicity (2010-2019)

- Asian/Pacific-Islander: 30.5
- White, Non-Hispanic: 53.5
- Hispanic/Latinx: 55.1
- Black or African American: 89.6
- American Indian or Alaska Native: 111.5

All population: 63.3
People walking in lower-income areas are struck and killed at much higher rates. People walking in wealthier neighborhoods are killed at far lower rates.

![Bar graph showing pedestrian fatalities per 100,000 people by census tract median household income.](image)

- **All population:** 1.65
- **$2.5k-$41k:** 3.0
- **$41k-$53k:** 2.0
- **$53k-$66.5k:** 1.0
- **$66.5k-$90k:** 0.8
- **$90k-$250k:** 0.4
You can’t prioritize both safety and speed

If hit by a car traveling:

- **5%**
  - 20 MPH
  - Fatality: 1
  - Person survives collision: 8

- **45%**
  - 30 MPH
  - Fatality: 7
  - Person survives collision: 3

- **85%**
  - 40 MPH
  - Fatality: 16
  - Person survives collision: 0

<table>
<thead>
<tr>
<th>Traffic Condition</th>
<th>LOS</th>
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<tbody>
<tr>
<td>FREE FLOW</td>
<td>A</td>
</tr>
<tr>
<td>Low volumes and no delays.</td>
<td></td>
</tr>
<tr>
<td>STABLE FLOW</td>
<td>B</td>
</tr>
<tr>
<td>Speeds restricted by travel conditions, minor delays.</td>
<td></td>
</tr>
<tr>
<td>STABLE FLOW</td>
<td>C</td>
</tr>
<tr>
<td>Speeds and maneuverability closely controlled because of higher volumes.</td>
<td></td>
</tr>
<tr>
<td>STABLE FLOW</td>
<td>D</td>
</tr>
<tr>
<td>Speeds considerably affected by change in operation conditions. High density traffic restricts maneuverability; volume near capacity.</td>
<td></td>
</tr>
<tr>
<td>UNSTABLE FLOW</td>
<td>E</td>
</tr>
<tr>
<td>Low speeds; considerable delay; volume at or slightly over capacity.</td>
<td></td>
</tr>
<tr>
<td>FORCED FLOW</td>
<td>F</td>
</tr>
<tr>
<td>Very low speeds; volumes exceed capacity; long delays with stop-and-go traffic.</td>
<td></td>
</tr>
</tbody>
</table>
Conflicting messages to drivers
Freeway capacity grew faster than population, yet delay exploded

42%

32%

144%

Change in freeway lane-miles, population growth, and annual hours of delay in the largest 100 urbanized areas from 1993-2017. Delay is defined as extra time spent traveling at congested rather than free-flow speeds. While FHWA only provides data on lane-miles of freeway, TTI’s delay metrics capture both freeways and arterial roads.
Induced demand
How highway expansion actually creates more traffic

Government invests millions in expanding the highway to "alleviate" congestion.
The way we build creates/lengthens trips

2 miles driven

25 miles driven
The High Cost of Transportation in the US

**Portion of Transportation Expenditure relative to Income: United States**

- **Income**
- **Expenditure on Transportation**
Making Transportation More Equitable
Measure the right thing — multimodal access

<table>
<thead>
<tr>
<th>Jobs accessible</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>&lt; 15 min</td>
<td>29,000</td>
</tr>
<tr>
<td>&lt; 30 min</td>
<td>293,000</td>
</tr>
<tr>
<td>&lt; 45 min</td>
<td>308,000</td>
</tr>
<tr>
<td>&lt; 60 min</td>
<td>308,000</td>
</tr>
<tr>
<td><strong>Final score</strong></td>
<td>212,000</td>
</tr>
</tbody>
</table>

**Work accessibility (auto)**

- 0 - 100k
- 100 - 120k
- 120 - 140k
- 140 - 160k
- 160 - 180k
- 180 - 200k
- 200 - 220k
- 220k +
Measure the right thing — multimodal access

<table>
<thead>
<tr>
<th>Jobs accessible</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 15 min</td>
<td>250</td>
</tr>
<tr>
<td>&lt; 30 min</td>
<td>24,000</td>
</tr>
<tr>
<td>&lt; 45 min</td>
<td>33,000</td>
</tr>
<tr>
<td>&lt; 60 min</td>
<td>122,000</td>
</tr>
<tr>
<td>Final score</td>
<td>18,000</td>
</tr>
</tbody>
</table>

Work accessibility (transit)

- 0 - 5,000
- 5,000 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- 20,000 - 25,000
- 25,000 - 35,000
- 35,000 - 45,000
- 45,000 +
Measure the right thing — multimodal access
Measure the right thing — multimodal access

Access to:
- Schools
- Shopping
- Grocery stores
- Food and drink
- Recreation
- Healthcare
- Public services
- Banks and ATMs

Non-work access (walking):
- 0.0 - 12.5
- 12.5 - 25.0
- 25.0 - 37.5
- 37.5 - 50.0
- 50.0 - 62.5
- 62.5 - 75.0
- 75.0 - 87.5
- 87.5 - 100

Weights:

Minutes (by walking):

0.00
0.20
0.40
0.60
0.80
1.00

0 20 40 60 80 100 120
Update standards and scoping
Update standards and scoping
Build better infrastructure for people
Tennessee Adopts NACTO Guidelines; Still Waiting on New York, New Jersey and Connecticut

POSTED BY: MATTHEW NORRIS  JUNE 23, 2014

Tennessee recently became the sixth state to formally endorse the National Association of City Transportation Officials (NACTO) Urban Street Design Guide. The guide provides technical standards that departments of transportation can use to create streets that safely accommodate all road users, including pedestrians, bicyclists and transit riders. Thirty-seven cities, including New York City, and six states have adopted NACTO standards, but New York, Connecticut, New Jersey and New Hampshire have yet to endorse them. The NACTO Urban Street Design Guide provides detailed guidance on how to create vibrant streets that accommodate all road users as safely as possible. | image: NACTO
Use Better Design, FDOT
Harbor Drive, Portland, OR
Harbor Drive, Portland, OR
Greenville, SC
Transportation for America

beth.osborne@t4america.org

@t4america

www.t4america.org
Transit, Mobility and Equity Forum
COVID-19 Economic Impact

- 23% of the region’s workers (420,000) are vulnerable to the immediate effects of the pandemic response
- 30.3 million initial jobless claims nationally
- 338k initial jobless claims in Colorado
- DEN ridership down 95% (now over 80% of pre-COVID volume), RTD ridership down 70% (now 50% of pre-COVID)
- Traffic fatalities down 28%
- City budget losses over 200M, 127M received from the CARES act and ~150M Rescue Plan

Region
- Denver
- MSA
- National

Most Recent Available Data:
February 2021

Monthly Unemployment Rate (2010-Current)
- Denver
- MSA
- National

- Denver Unemployment Rate: 7.60
- MSA Unemployment Rate: 7.00
- National Unemployment Rate: 6.60
RTD Snapshot

(Presented 12/8)

Routes Ridership Retention Pandemic vs 2019

<table>
<thead>
<tr>
<th>Route Name/Corridor</th>
<th>Pandemic Ridership Retention</th>
</tr>
</thead>
<tbody>
<tr>
<td>36: Fort Logan</td>
<td>99%</td>
</tr>
<tr>
<td>16: West Colfax Avenue</td>
<td>86%</td>
</tr>
<tr>
<td>48: East 48th Avenue / Commerce City</td>
<td>85%</td>
</tr>
<tr>
<td>51: Sheridan Blvd</td>
<td>80%</td>
</tr>
<tr>
<td>15L: East Colfax Limited</td>
<td>70%</td>
</tr>
<tr>
<td>153: Chambers Road</td>
<td>69%</td>
</tr>
<tr>
<td>92: 92nd Avenue</td>
<td>69%</td>
</tr>
<tr>
<td>4: Morrison Road</td>
<td>67%</td>
</tr>
<tr>
<td>31: Federal Blvd</td>
<td>65%</td>
</tr>
<tr>
<td>120: 120th Avenue / Brighton</td>
<td>62%</td>
</tr>
<tr>
<td>45: Montbello / Green Valley Ranch</td>
<td>62%</td>
</tr>
<tr>
<td>15: East Colfax Avenue</td>
<td>61%</td>
</tr>
<tr>
<td>73: Quebec Street</td>
<td>61%</td>
</tr>
<tr>
<td>121: Peoria Street</td>
<td>61%</td>
</tr>
<tr>
<td>88: Northglenn/Commerce City/Stapleton</td>
<td>61%</td>
</tr>
<tr>
<td>40: Colorado Boulevard</td>
<td>61%</td>
</tr>
<tr>
<td>105: Havana Street</td>
<td>61%</td>
</tr>
<tr>
<td>29: Riverbend</td>
<td>61%</td>
</tr>
<tr>
<td>12: Downing / N Washington</td>
<td>58%</td>
</tr>
<tr>
<td>38: 38th Avenue</td>
<td>55%</td>
</tr>
</tbody>
</table>
Rethinking the Street

**Issue:** Initial COVID impact created parks and trails experiencing overcrowding due to individuals seeking space to recreate.

**Solution:** Denver created temporary shared streets to provide safe and high-comfort space for people to recreate and travel close to home.
- 11 corridors, ~7.5 mi
- First city to scale
- 100% city program
Denver's Parks and Parkways 1/4 Mile or 5-Minute Walk Buffer With Population Density Below

Legend
- Parks & Parkways 5-Min Walk (1/4 Mile Buffer)
- Population Density ACS 2018 5YR
  - 0 - 5316
  - 5317 - 9256
  - 9257 - 14625
  - 14626 - 24293
  - 24294 - 41078
Denver's Parks and Parkways 1/4 Mile or 5-Minute Walk Buffer With DOTI's Equity Index Below
KPIs: Count Data

- 77% fewer vehicle trips
- 28% slower vehicle speeds
- 11th/16th/Marion > bicyclists than Cherry Creek Trail
- ~10K people per day
KPIs: Micromobility Data
KPIs: Regular Iterations
Community Feedback

- Unanimous political support
- Strong community support
- Advocacy praise
- State & national recognition
Making Equity a Reality

Providing attention and resources to the areas, assets and people of the city with the greatest need.

“Recognize that disparities exist.”

“Relentless pursuit of closing the gaps and removing barriers.”