



# Transforming Transportation Workshop Sustainable Transportation Toolbox

May 3 & 4, 2022

1

The top section of the slide features the METROPLAN logo and the text 'Welcome and Introductions' on a dark blue background. The logo includes the same five transportation icons as the first slide. Below this header, the word 'Welcome' is centered on a white background.

# Welcome

2



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## Housekeeping

- Restrooms
- Cell phones and laptops
- Questions
- Lunch

3



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## Agenda - Day 1

***INVESTED***  
in the future  
of the region's  
transportation.



1. Welcome and Introductions
2. Our Transportation Culture
  - A. Assess
  - B. Align
  - C. Aspire
3. VMT Conservation
  - A. What are we trying to protect
  - B. What are we trying to avoid
  - C. What are we trying to create
4. Recap

4



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## Workshop Objectives

- Excite staff about the process.
- Provide a space for learning, brainstorming, and collaboration
- Understand best practices and emerging trends to serve community goals
- Understand tools for development review, transportation planning, and engineering

This effort complements the Stride Forward Regional Transportation Plan

5



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## Sustainable Transportation Toolbox

- Challenge the status quo
- Expand thinking around best practices and evaluation processes
- Phase I: Build off significant policy foundation and develop performance targets
- Phase II: Develop infrastructure standards and regulatory language

6



## Sustainable Transportation Toolbox: Now to December

### Kick-off Workshop

**Develop and evaluate tools** for assessing transportation climate impacts:

- Regional Transportation Model
- VMT calculator

**Develop performance standards** for development and public projects. Like...

- Measurements for vehicle miles traveled (VMT)
- Incorporate transportation demand management (TDM).
- Bicycle and Pedestrian level of service standards
- Multimodal intersection level of service standards and warrant processes

7




## What is culture?


- Simply, the way we *think, act, and interact*




8



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**REACTIONARY**  
Scattered & inconsistent  
Rush to judgements  
Blame others: Someone else's problem



**PROACTIVE**  
Intentional & purposeful  
Seek to understand  
Solution focused: Take personal ownership

9



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# 6A's for Leading Change

**ASSESS**  
Where are we succeeding and where are we falling short

**ALIGN**  
Help people participate and connect to the Why


**ASPIRE**  
What do we want to be different?

**ARTICULATE**  
Communicate the vision/values

**ACT**  
Implement, train, coach, evaluate and give feedback

**ANCHOR**  
Rinse, Repeat and Recast... build habits

10




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## Assess

Where we are

11




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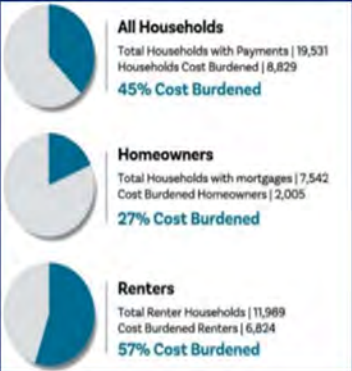
## Assess... Big Issues

### Climate Change



**17%** Residential Energy  
**6%** Industrial Energy  
**20%** Commercial Energy  
**5%** Water and Wastewater  
**11%** Transportation

### Housing Affordability

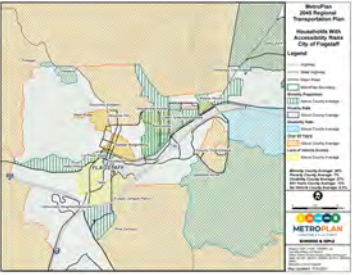


**All Households**  
Total Households with Payments | 19,531  
Households Cost Burdened | 8,829  
**45% Cost Burdened**

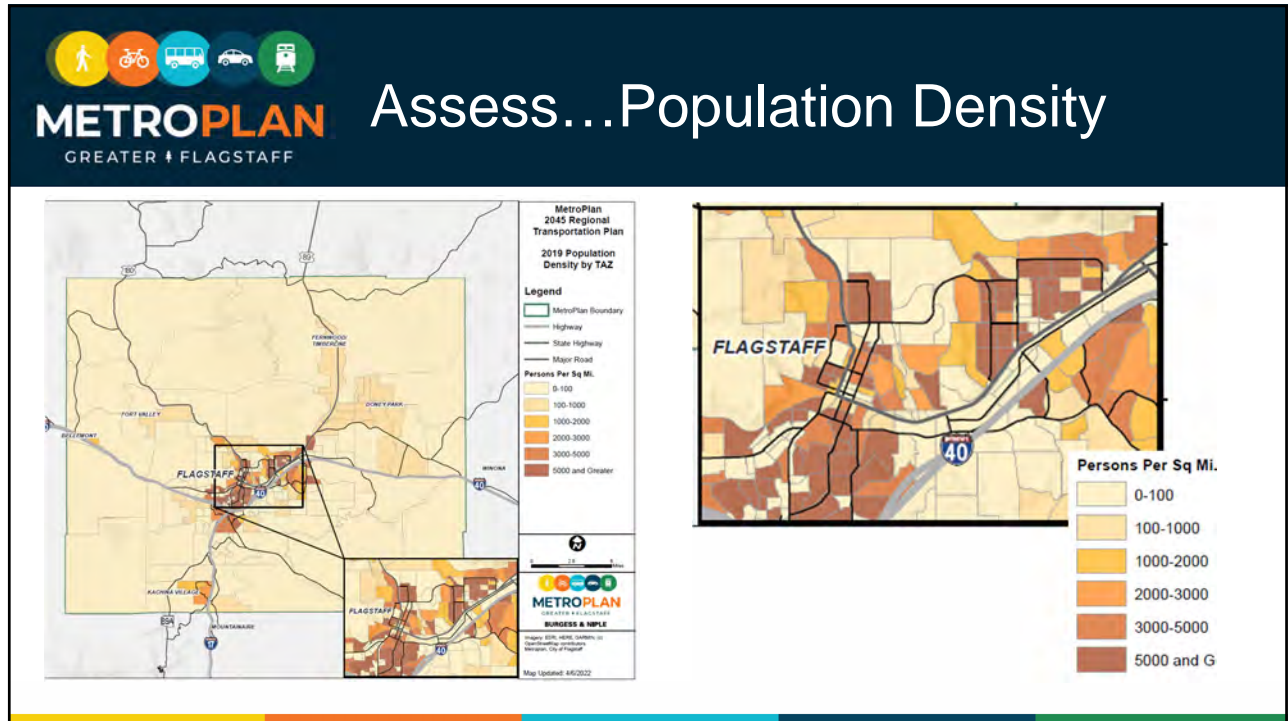
**Homeowners**  
Total Households with mortgages | 7,542  
Cost Burdened Homeowners | 2,005  
**27% Cost Burdened**

**Renters**  
Total Renter Households | 11,969  
Cost Burdened Renters | 6,824  
**57% Cost Burdened**

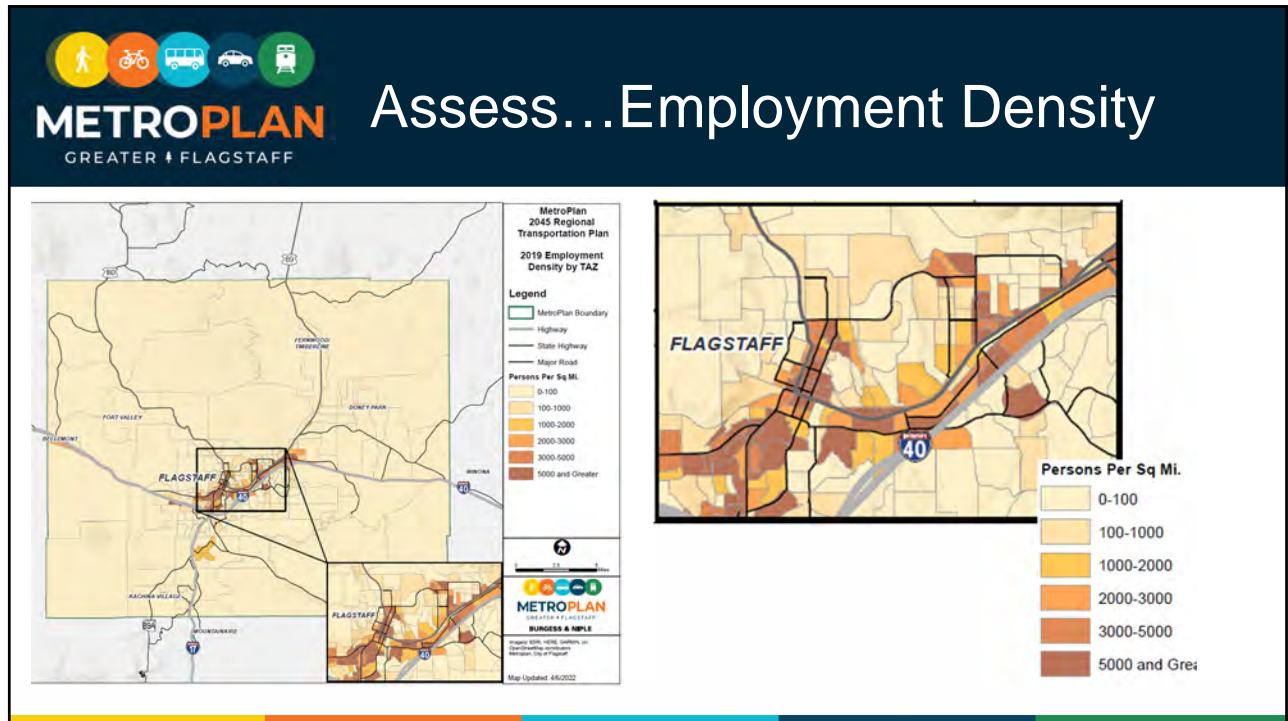
### Equity



12



13



14



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# Assess... Development Potential

## Development Regulations

- Maximum height for buildings: 60 feet or five stories

Village of Aspen Place



Photo courtesy of Red Development

15



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## Assess... Development Potential

### Legend

★ Existing Buildings at Max Height

### Percentage of Allowed Height used

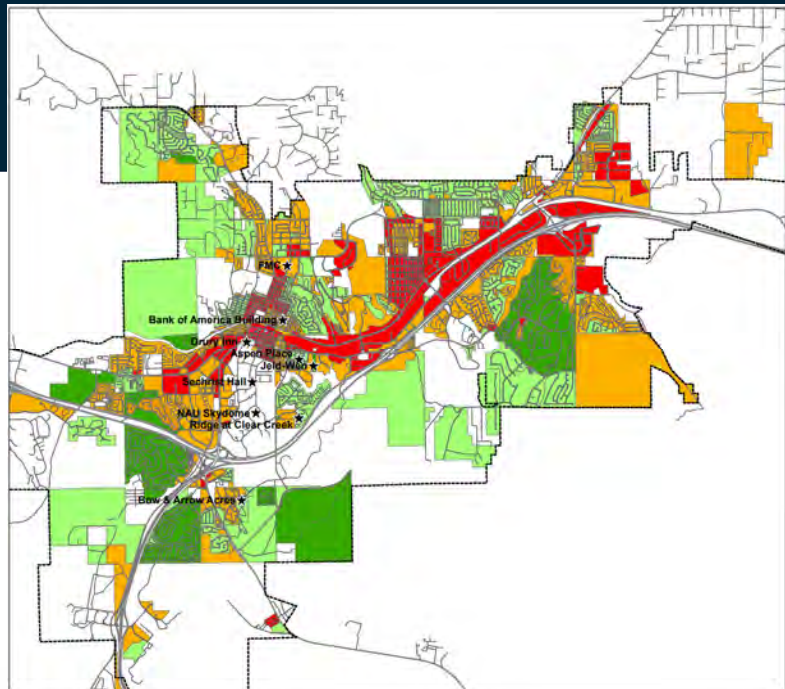
- 0-30% potential for growth
- 31-50%
- 51-70%
- 71-99% Less potential

Urban Growth Boundary

0 0.5 1 2 Miles




11/1/2016 Created by: Joey Bogart



16



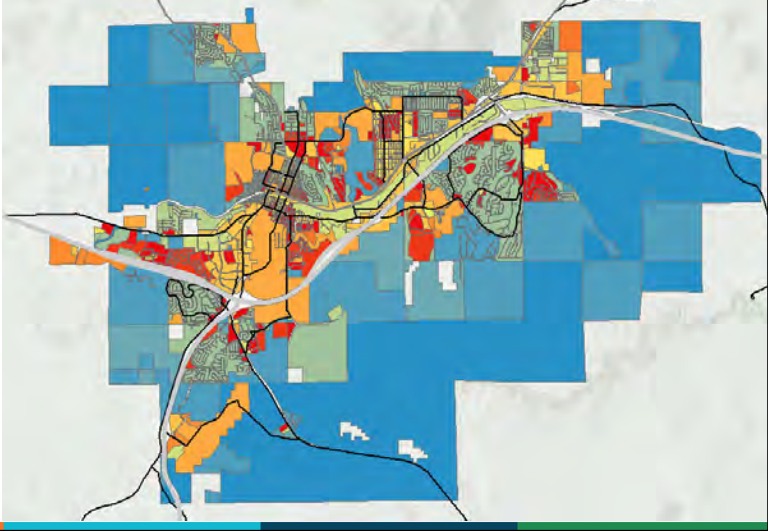
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## Assess...Where we are


- Land Use Density
  - Blue: Low
  - Red: High

*Many "high density" areas are dominated by single family homes*

*Almost no employment centers are "high density"*




17

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## Assess...Barriers

Barrier: Rail Crossing

- 80-100 trains per day
- 8 crossings in 4.5 miles



18



# Assess...Barriers


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### Barrier: I-40


- 1.8 miles: 4th to Country Club
- 1.1 miles: Butler to 4th
- 1.9 miles: Lone Tree to Butler
- 1.0 miles: 17 to Lone Tree
- 0.5 miles: U. Heights to 17
- 1.3 miles: Woody Mtn to U. Heights
- 0.9 miles: Flag Ranch to Woody. Mtn.

**1.6 miles average bicycle trip**

**1.0 miles average walk trip (really?)**



**1.2 miles average between crossings**




# Assess...Bikes

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- **Bike Level of Service (LOS)**

Intersection Density

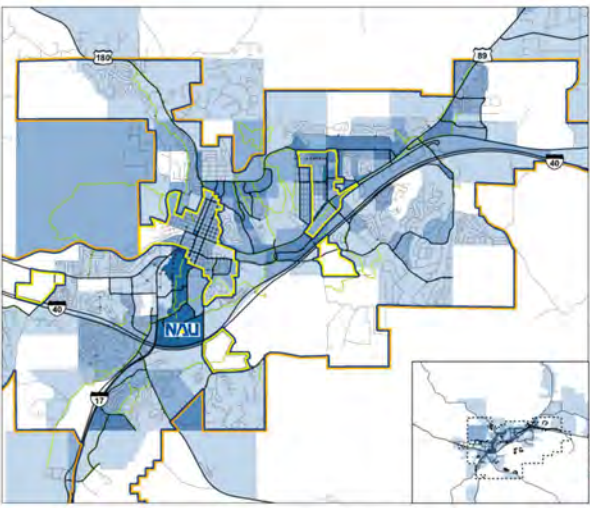


2015 Internal Intersection Density

Bike Lanes Completed



2015 Bike Lane Completions



**2015 Bicycle Level of Service**

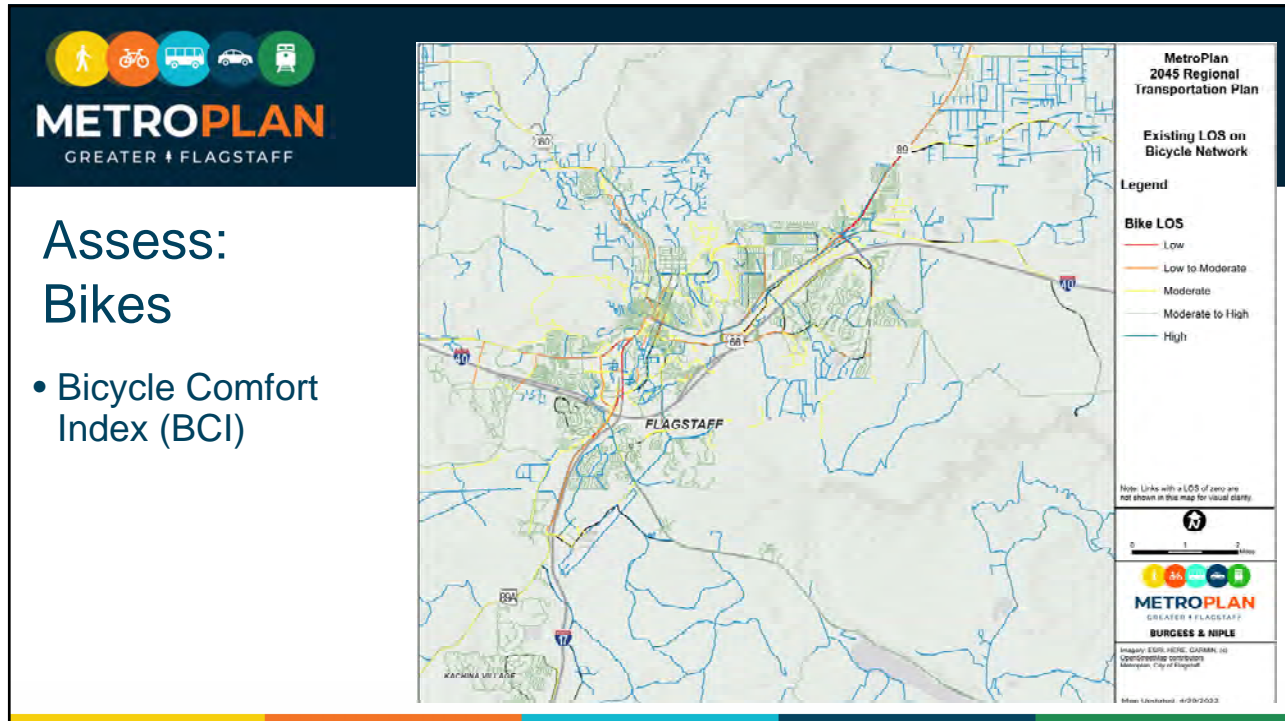
High	Rural
Medium	Suburban
Low	Urban

Major Roads — FUTURE  
Local Roads — Crossings

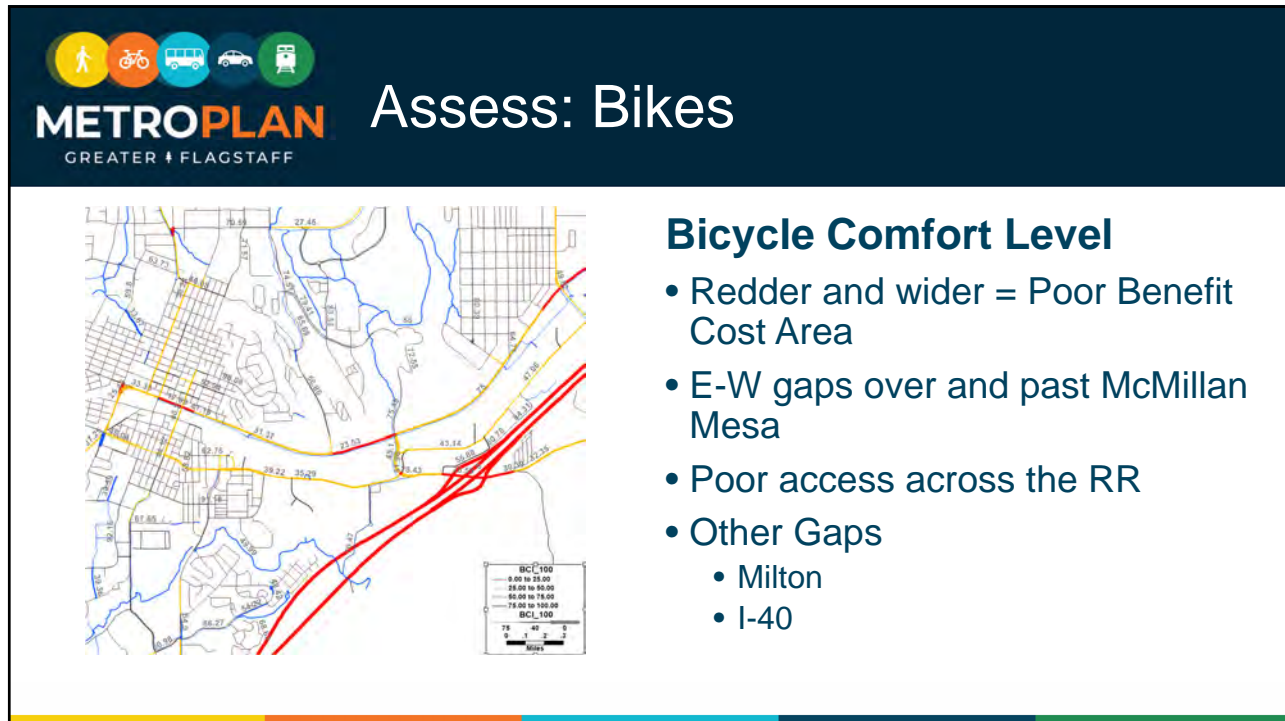
0 0.5 1 Miles

Defined by:  
 - External Connectivity  
 - Internal Connectivity  
 - FUTURE Completions  
 - External Crossings  
 - Bike Lane Completions  
 - Traffic Flow

December 2016



21





22

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# Assess...Bikes

- Downtown Flagstaff
- Google Earth Image

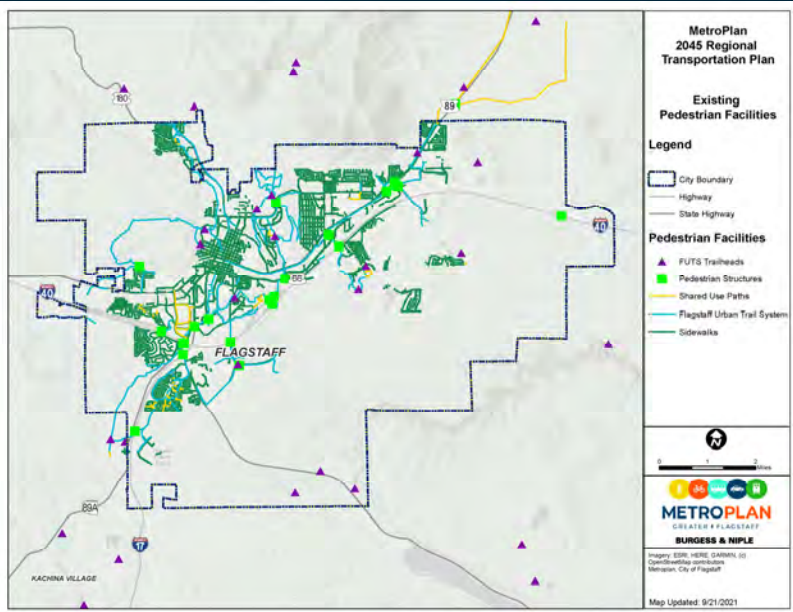



23

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# Assess Walking

- Pedestrian network



**MetroPlan 2045 Regional Transportation Plan**

**Existing Pedestrian Facilities**

**Legend**

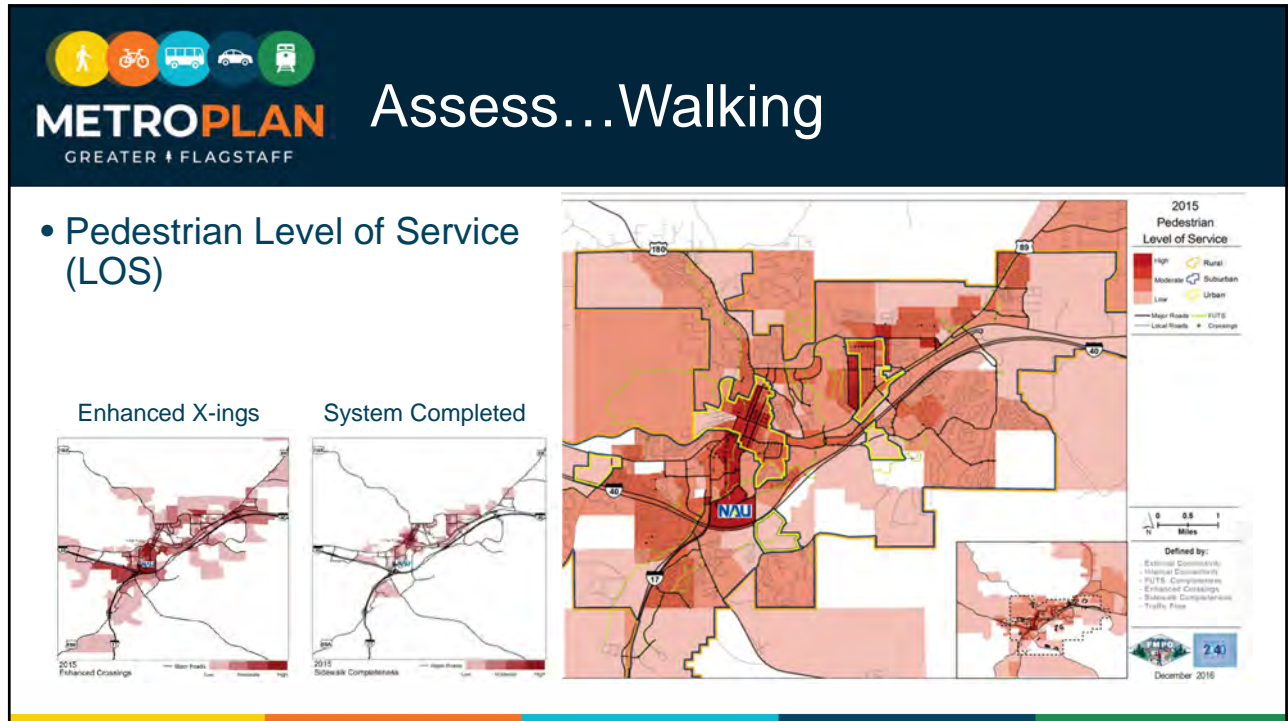
- City Boundary
- Highway
- State Highway

**Pedestrian Facilities**

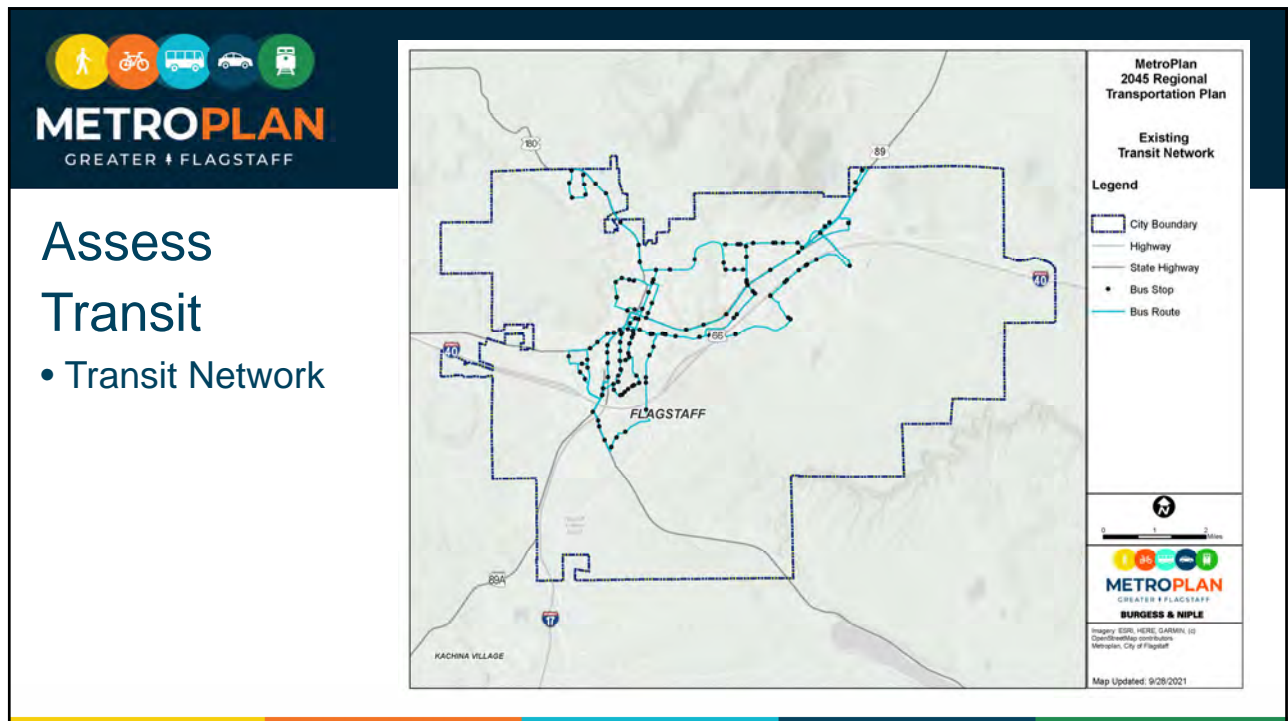
- FUTS Trailheads
- Pedestrian Structures
- Shared Use Paths
- Flagstaff Urban Trail System
- Sidewalks

Map Updated 9/21/2021

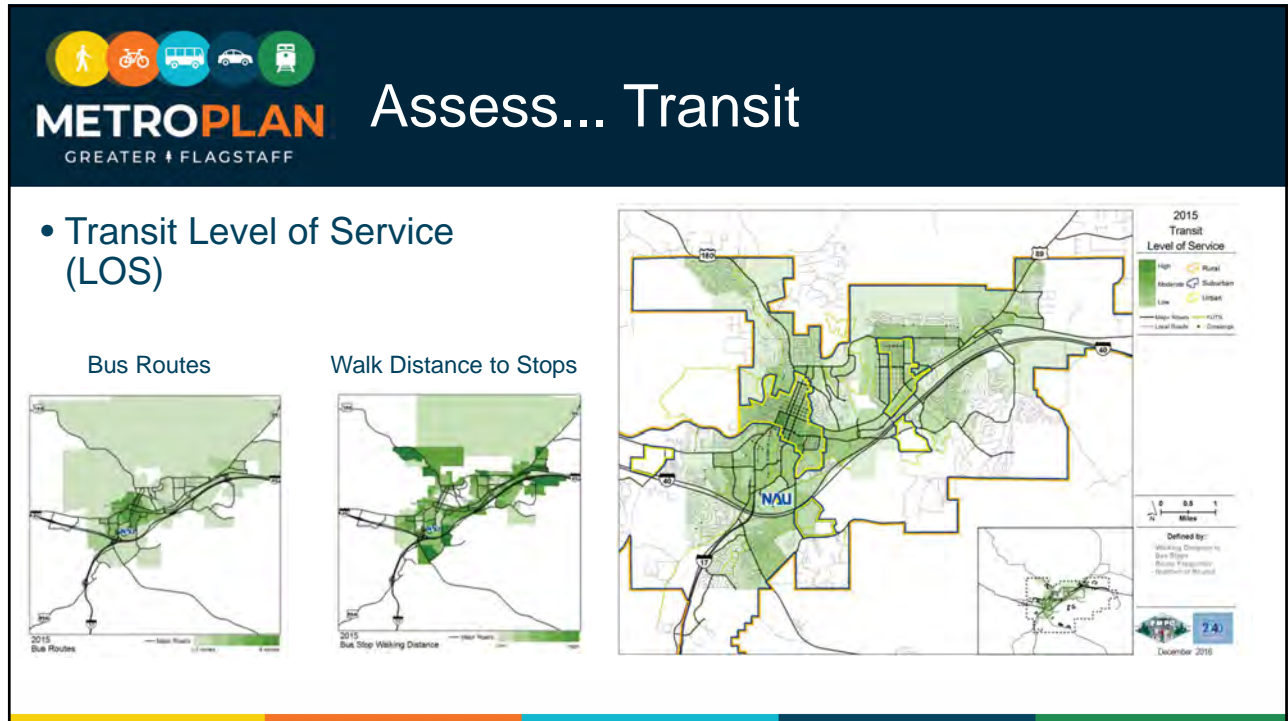
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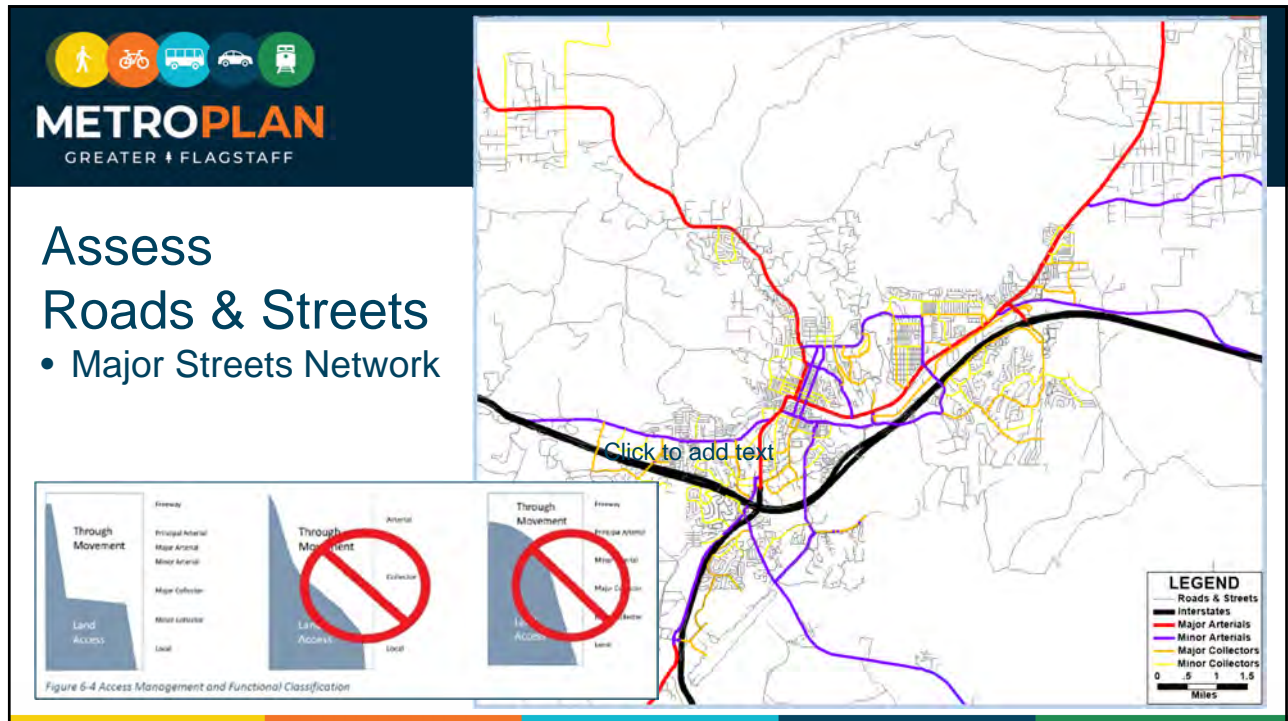
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27



28



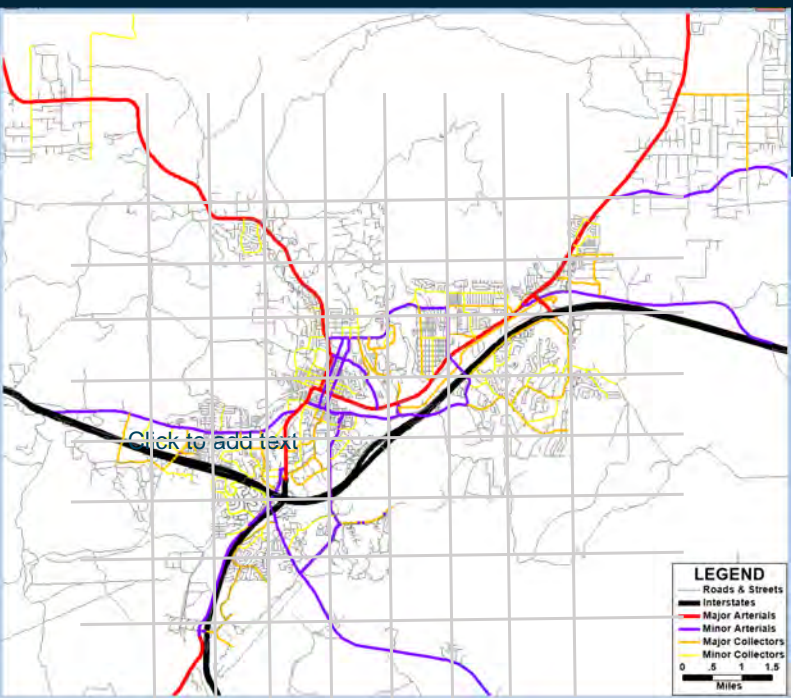
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## Assess Roads & Streets

- Major Streets Network

Industry Standard  
4-lane **major** arterial on mile grid  
= 8 lane-miles/square mile  
4,500-5,000 persons/sq. mile  
Transportation Research Board, 2014, Access Management Manual, 2nd Edition, p.85

Flagstaff Region  
5.3 lane-miles/square mile  
• **Major and Minor arterials**  
2,500 persons/square mile




Click to add text

**LEGEND**

- Roads & Streets
- Interstates
- Major Arterials
- Minor Arterials
- Major Collectors
- Minor Collectors

0 .5 1 1.5  
Miles

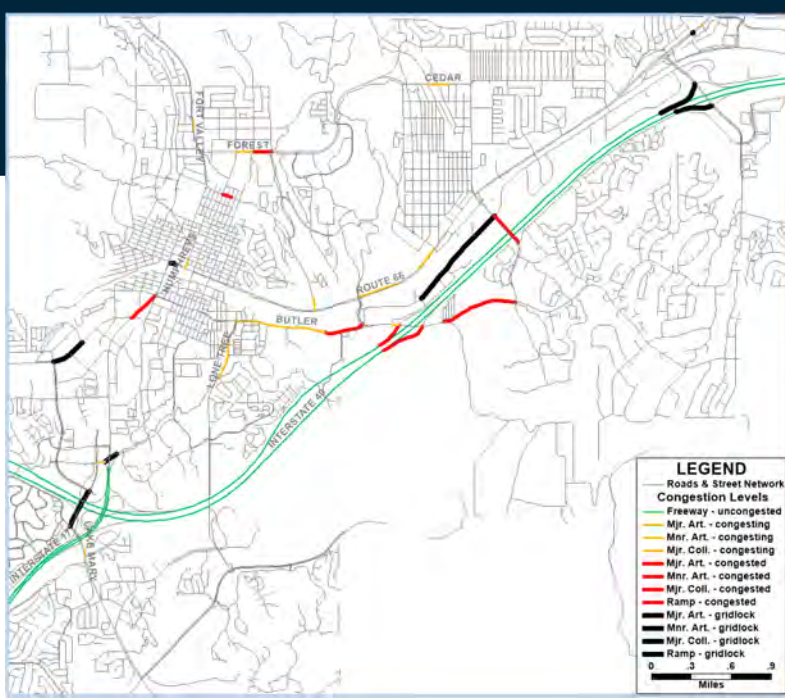
29



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## Assess Roads & Streets

- Congested Road Network

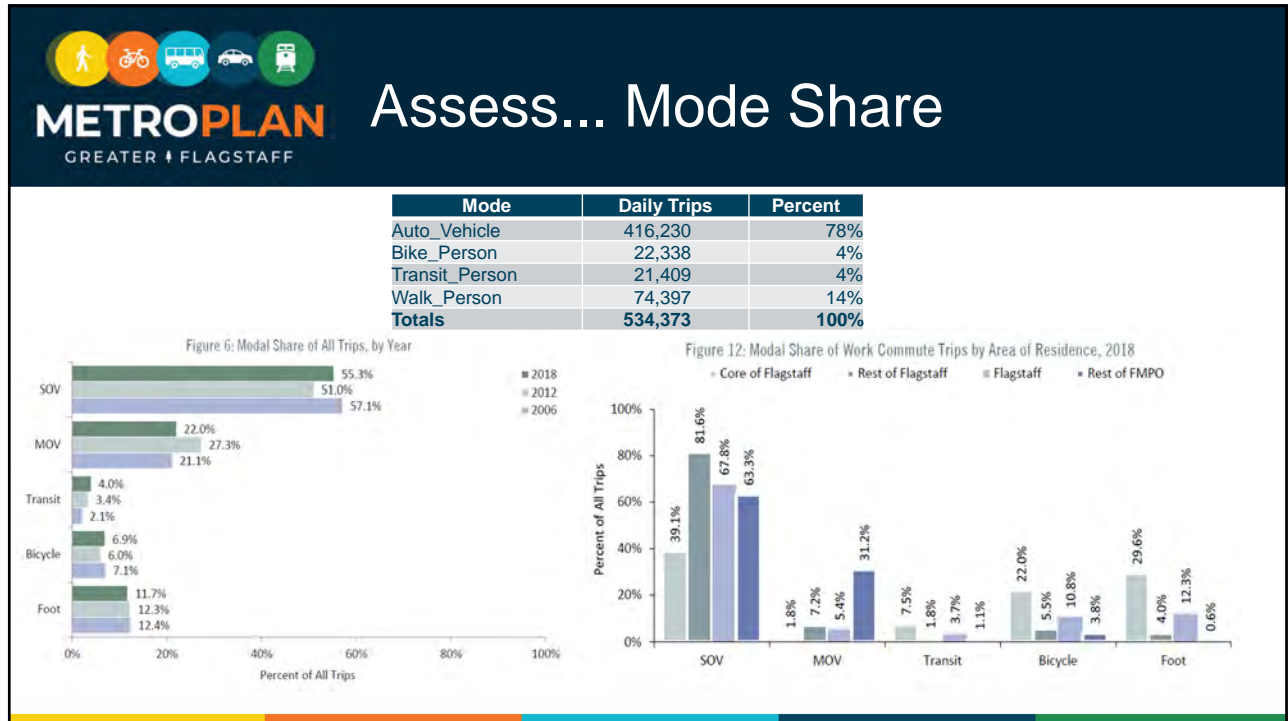


**LEGEND**

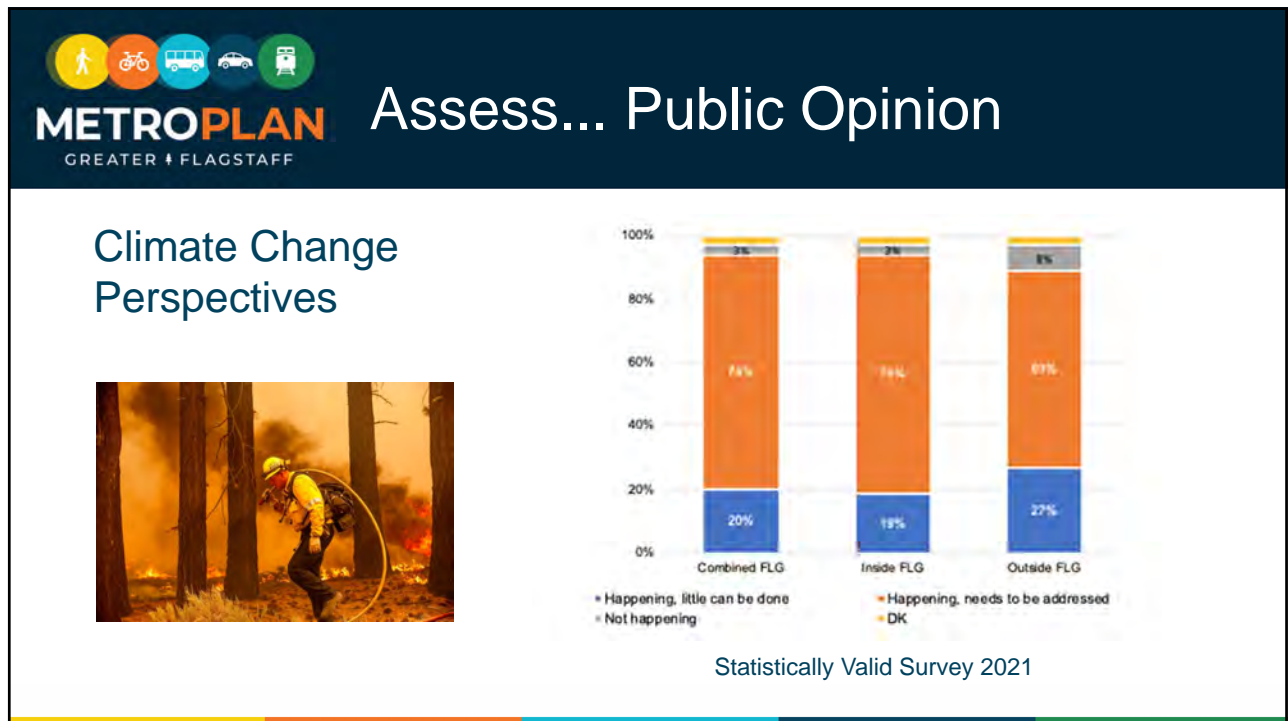
- Roads & Street Network
- Congestion Levels**
- Freeway - uncongested
- Mjr. Art. - congesting
- Mnr. Art. - congesting
- Mjr. Coll. - congesting
- Mjr. Art. - congested
- Mnr. Art. - congested
- Mjr. Coll. - congested
- Ramp - congested
- Mjr. Art. - gridlock
- Mnr. Art. - gridlock
- Ramp - gridlock

0 3 6 9  
Miles

30




31



32

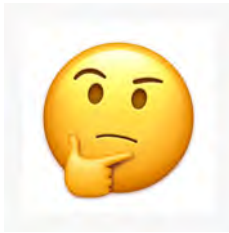
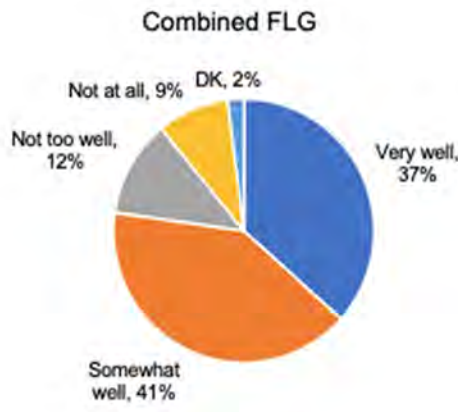




# METROPLAN Assess... Public Opinion

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## Evaluation of Current Transportation System

Statistically Valid Survey 2021

Response	Percentage
Very well	37%
Somewhat well	41%
Not too well	12%
Not at all	9%
DK	2%



33



# METROPLAN Assess... Public Opinion

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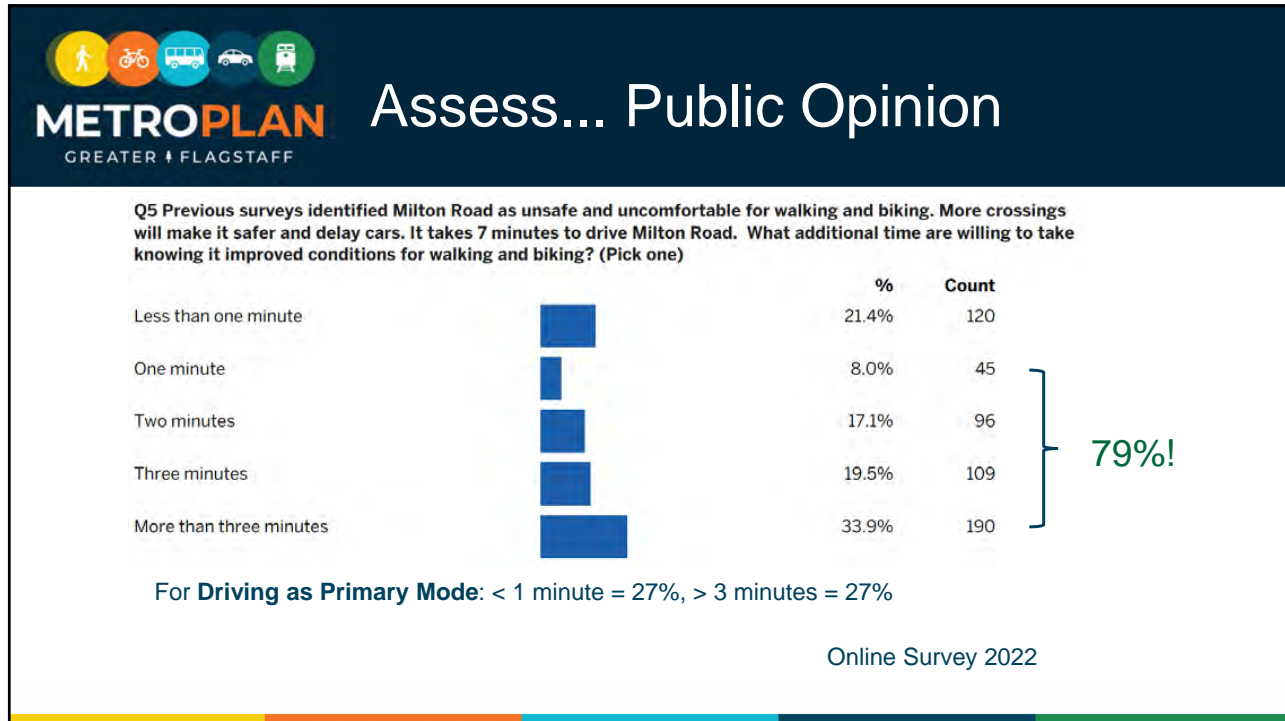
## Q4 Do you feel the Flagstaff transportation network sufficiently supports walking, biking and transit?

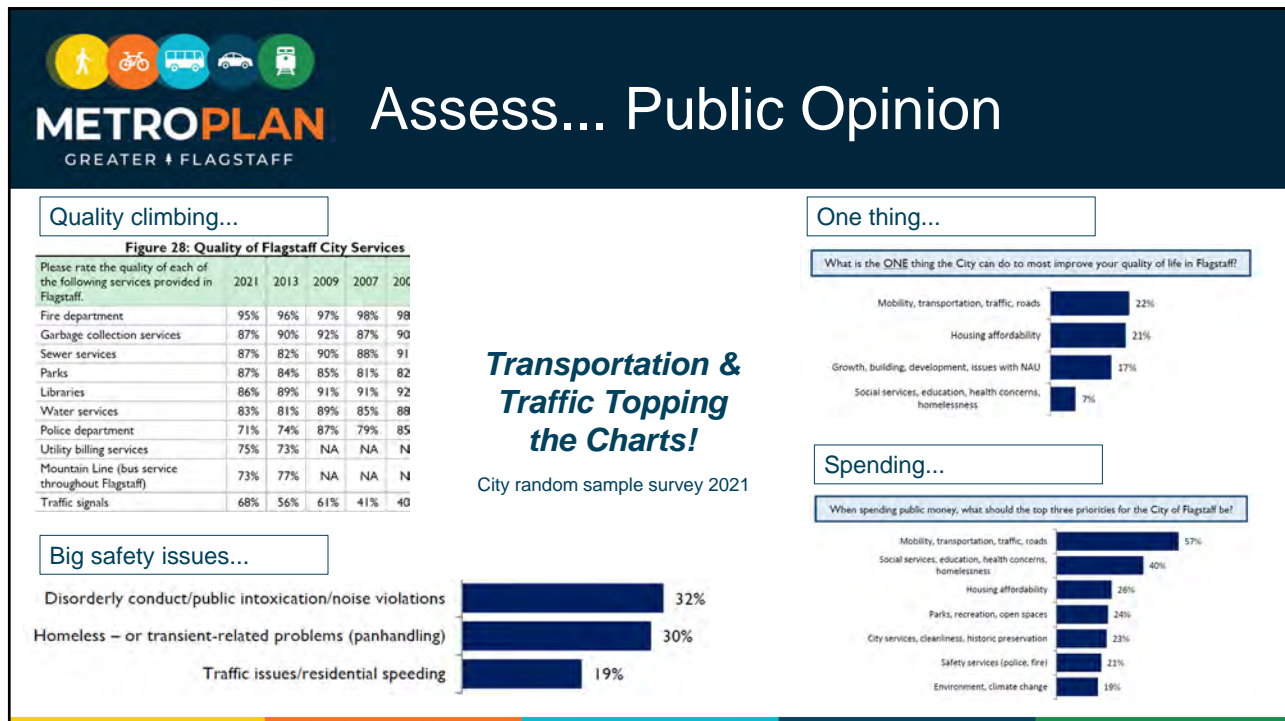
Response	%	Count
Yes	35.0%	200
No	65.0%	371

Online Survey 2022


34



35



36




# Assess... Public Opinion

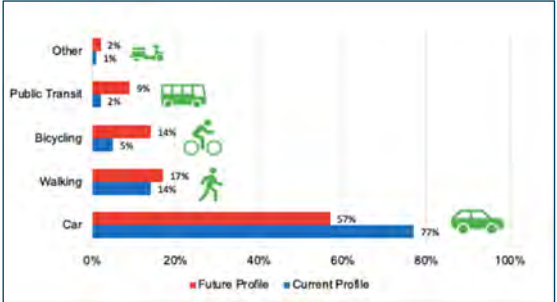
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**Q2 If all means of travel were equally convenient and safe, which means of travel would you prefer to use? (Select one)**

	%	Count
Bus	11.1%	64
Walking	15.3%	88
Driving	29.6%	170
Bicycling	43.9%	252




Online Survey 2022



Statistically Valid Survey 2021

37



# Assess

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- What are we doing well?
- What are our biggest strengths?
- Where are we winning?

38



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## Assess

- What can we improve?
- What are the largest obstacles and challenges we face?
- What does this keep us from accomplishing?

39




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## Assess

- What are our biggest opportunities right now?

40




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# Align

Where do we want to be?

41



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## RTP Engagement

- Random Sample Survey: 629 responses
- Online Survey #1: 640 responses
- Online Survey #2: 579 responses
- Stakeholder presentations: 20 organizations, 211 people
- Social Media: paid ads, 20k people
- Website: [www.metroplanflg.org/strideforward](http://www.metroplanflg.org/strideforward) document access
- Tables at various events
- Underserved – pop-up events planned


42



## METROPLAN Our Public Survey Results

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- We are car dependent
- Primary mode of travel is driving
- Cars are considered necessary for about 89% of respondents



43



## METROPLAN Public Opinion

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- Many of the respondents could not comment on the frequency and proximity of transit in their areas



44

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# Our Policies

- Downtown Regulating Plan: Transect Zoning

**Map of Downtown Regulating Plan (i.e. Transect Zones)**

**Legend**

- Regulating Plan Boundary
- T3 Neighborhood 1 (T3N-1)
- T4 Neighborhood 1 Open (T4N-1-O)
- T5 Main Street (T5)
- T5 Main Street Open (T5-O)
- T6 Downtown (T6)

45

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# Align...Our Goals and Strategies

- Existing Goals
  - Regional Plan
  - Blueprint 2040
  - Carbon Neutrality

Flagstaff Regional Plan 2030  
 Blueprint 2040: Regional Transportation Plan  
 The Flagstaff Carbon Neutrality Plan

46



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## New Emphasis on Sustainability

### Carbon Neutrality Goals

1. Achieve carbon neutrality by 2030
2. Prepare Flagstaff's communities, systems, and resources to be more resilient to climate change impacts
3. Address climate change in a manner that prioritizes those most impacted and ensures the costs and benefits of climate adaptation and mitigation are equitably distributed

47



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## Align...Our Commitments and Principles

1. Renewed commitment to Connectivity
  - People Matter
  - Smart and Connected Matters
  - Environment Matters
2. Renewed commitment to Multimodalism
  - People Matter
  - Place Matters
  - Prosperity Matters
  - Environment Matters
3. Renew commitment to Partnership
  - Cooperation Matters
  - Trust and Transparency Matters



48





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# Assess... Our Transportation Goals

- The 2040 RTP seek to implement the 2030 vision and goals:

Table 1-1 Transportation Goals from the Flagstaff Regional Plan 2030: Place Matters	
Goal T.1	Improve mobility and access throughout the region.
Goal T.2	Improve transportation safety and efficiency for all modes.
Goal T.3	Provide transportation infrastructure that is conducive to conservation, preservation, and development goals to avoid, minimize, or mitigate impacts on the natural and built environment.
Goal T.4	Promote transportation infrastructure and services that enhance the quality of life of the communities within the region.
Goal T.5	Increase the availability and use of pedestrian infrastructure, including FUTS, as a critical element of a safe and livable community.
Goal T.6	Provide for bicycling as a safe and efficient means of transportation and recreation.
Goal T.7	Provide a high-quality, safe, convenient, accessible public transportation system, where feasible, to serve as an attractive alternative to single-occupant vehicles.
Goal T.8	Establish a functional, safe, and aesthetic hierarchy of roads and streets.
Goal T.9	Strengthen and support rail service opportunities for the region's businesses and travelers.
Goal T.10	Strengthen and expand the role of Flagstaff Pulliam Airport as the dominant hub for passenger, air freight, public safety flights, and other services in northern Arizona.
Goal T.11	Build and sustain public support for the implementation of transportation planning goals and policies, including the financial underpinnings of the Plan, by actively seeking meaningful community involvement.

49



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# Carbon Neutrality Strategies

1. Strengthen our neighborhoods
  - Community Resilience
  - Equitable Systems
  - Decreased Dependence on Cars
2. Clean our energy sources
  - Electric Mobility
  - Clean Electricity
  - Building Fuel Switching

1. Manage our consumption
  - Reduced Building Energy Use
  - Sustainable Consumption and Waste Management
2. Uphold our commitment
  - Carbon Dioxide Removal



50




## Getting to Net-Zero: Key Shifts to Reach Carbon Neutrality Goals

- Community Resilience
- **Equitable Systems**
- **Decreased Dependence on Cars**
- **Electric Mobility**
- **Clean Energy**
- Building Fuel Switching
- Reduced Building Energy Use
- Sustainable Consumption and Waste Management
- Carbon Dioxide Removal




51




## Decreased Dependence on Cars

- Increase density in residential neighborhoods by 20%
- Hold VMT in the community to 2019 levels.
  - 17% reduction from business-as-usual projections in VMT growth by 2030
  - 30% of our internal VMT will be in electric (or have zero tailpipe emissions)
- 54% of all trips will be taken by biking, walking, or taking the bus by 2030
- 34% of all work commute trips will be taken by biking, walking, or taking the bus by 2030


52

**METROPLAN** **Electric Mobility**  
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- The City will provide 50 publicly available Level 2 electric vehicle charging stations by 2025



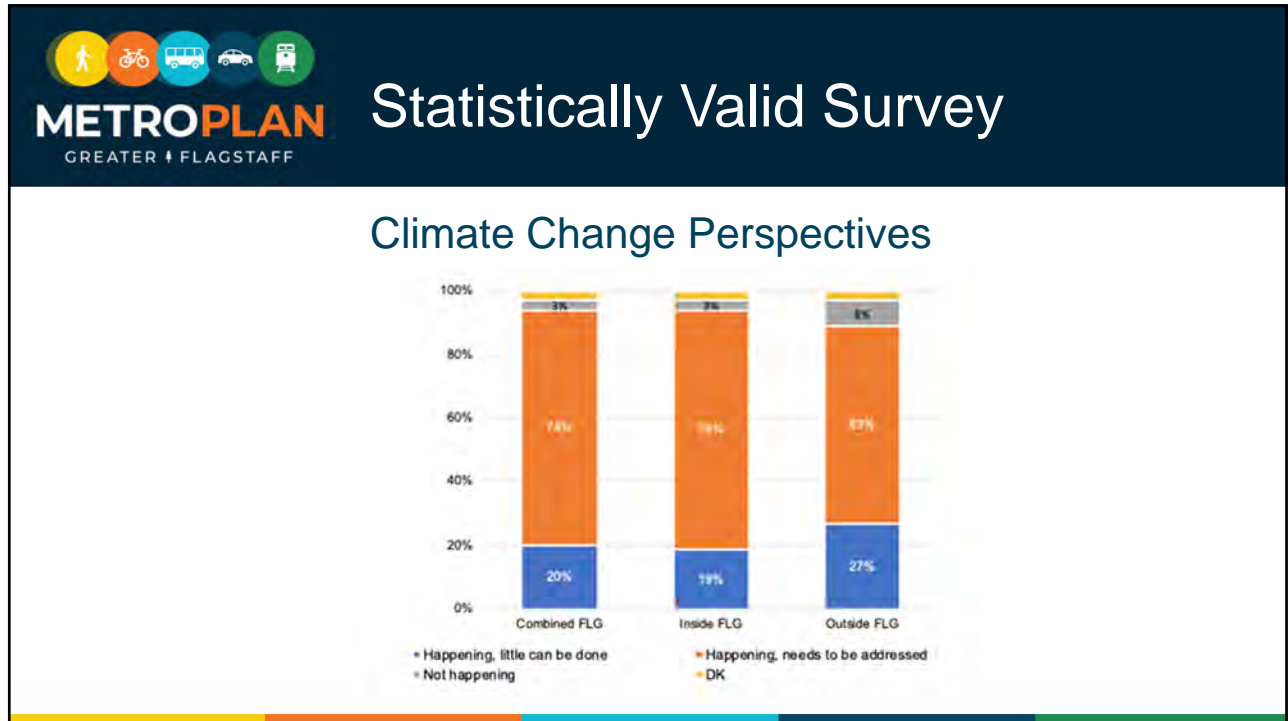
53

**METROPLAN** **Clean Energy**  
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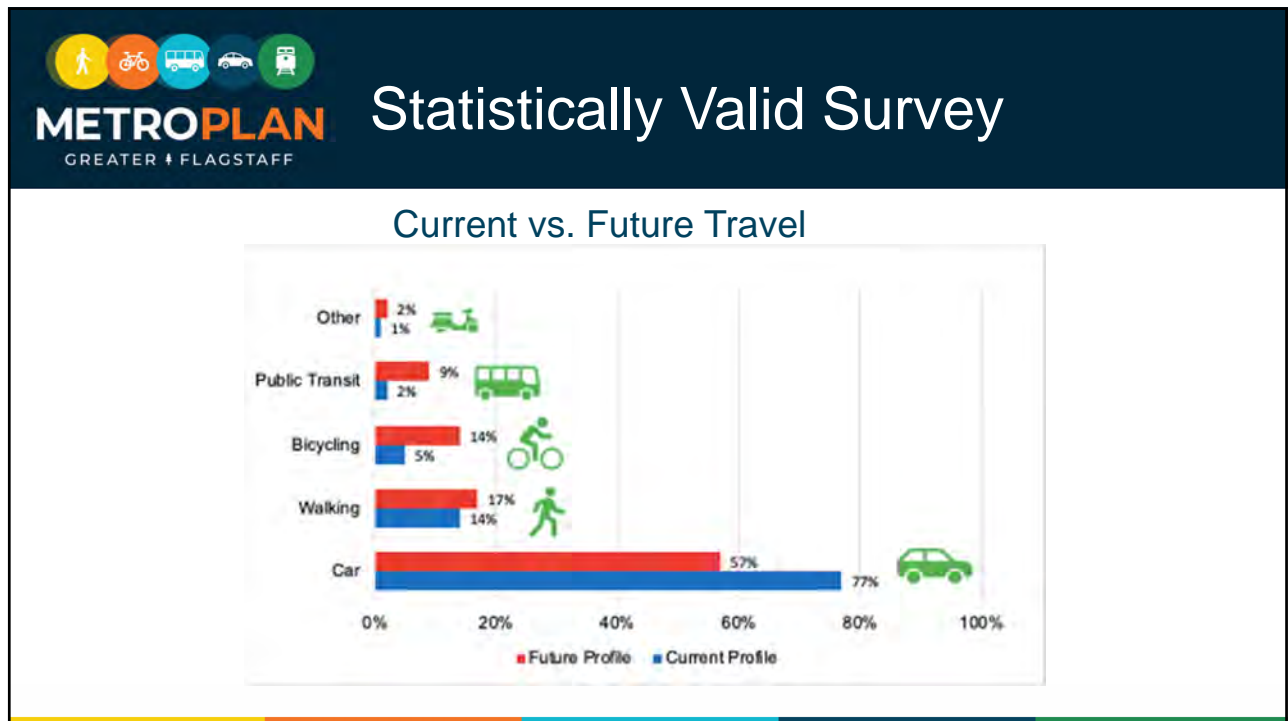
- 100% of municipal electricity use will be from renewables by 2025
- 68% of community electricity use from zero carbon energy by 2030




54



55




56


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# Align...Our Public Survey Results

- People are willing to make a change!
- 62% of the respondents expressed a willingness to switch modes

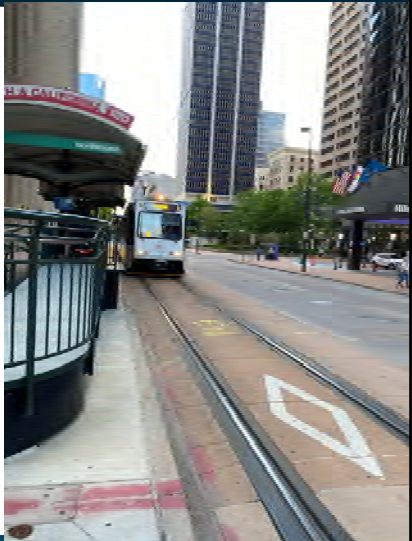


57

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# Align...Our Public Survey Results

- People are willing to make a change!
- 62% of the respondents expressed a willingness to switch modes



58

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# Align...Our Public Survey Results

- Motivation to switch modes:
  - Safer and more convenient bike lanes
  - Living closer to destinations
  - Access to transit



59

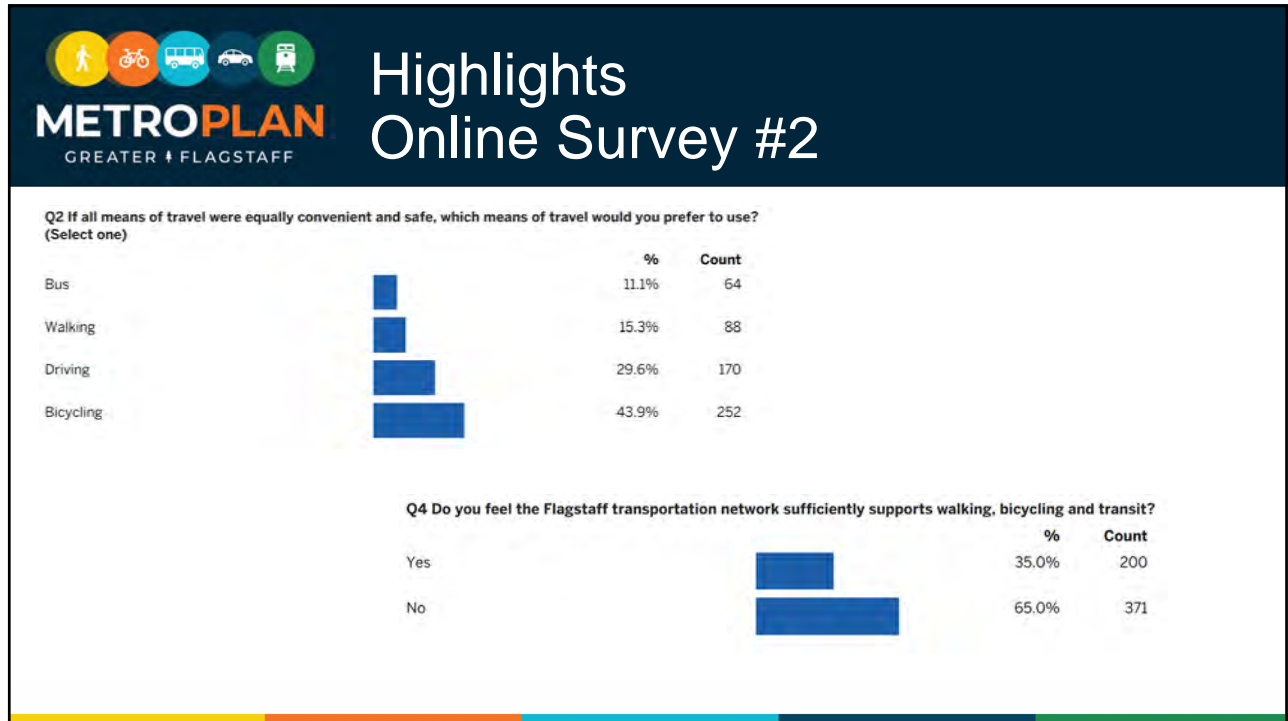
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# Align...Our Public Survey Results

- Motivation to switch modes:
  - Safer and more convenient bike lanes
  - Living closer to destinations
  - Access to transit



60



61

**Driving as a Necessity: Very frequent reason**

Reason	Percentage
Multiple people	14%
Children in car seat	13%
Disability	8%
Too far	40%
Packages	21%
Multiple stops	24%
No transit	18%


62



# Highlights – Driving is Safer Online Survey #1

Driving for Safety Reasons: Very Important	Percentage
Children	24%
Seatbelt/Airbag	24%
Fear of bike crash	41%
Fear of walk crash	20%
Risk of assault	15%
Weather	35%

63



# Highlights – Community Factors Online Survey #1

**Q9 Consider changing communities:**  
53% Yes | 23% Maybe

**Presence of 5-6 story apartment buildings with first floor retail**

1 = Much less likely to choose	
2 = Somewhat less likely to choose	
3 = Neutral	
4 = Somewhat more likely to choose	
5 = Much more likely to choose	

**Frequent small parks and wide, landscaped sidewalks**


	%	Count
1 = Much less likely to choose	8.0%	48
2 = Somewhat less likely to choose	2.0%	12
3 = Neutral	5.8%	35
4 = Somewhat more likely to choose	28.7%	173
5 = Much more likely to choose	55.1%	332

**Bus stops that are easy to get to**

	%	Count
1 = Much less likely to choose	11.3%	68
2 = Somewhat less likely to choose	3.5%	21
3 = Neutral	16.1%	97
4 = Somewhat more likely to choose	29.4%	177
5 = Much more likely to choose	39.6%	239

64






# Highlights Online Survey #2

**Q5 Previous surveys identified Milton Road as unsafe and uncomfortable for walking and biking. More crossings will make it safer and delay cars. It takes 7 minutes to drive Milton Road. What additional time are willing to take knowing it improved conditions for walking and biking? (Pick one)**

		%	Count
Less than one minute		21.4%	120
One minute		8.0%	45
Two minutes		17.1%	96
Three minutes		19.5%	109
More than three minutes		33.9%	190

For Driving as Primary Mode: < 1 minute = 27%, > 3 minutes = 27%

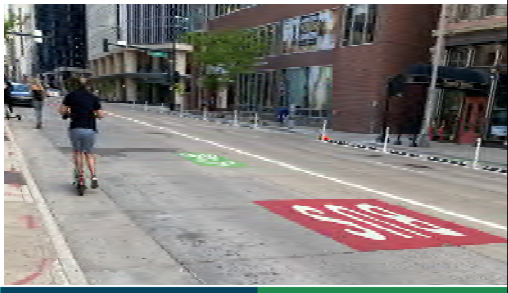
65




# Align...Our thoughts

- What is our **WHY**

*Why are you committed to this mission? Not yesterday or in the past, but now?*




66


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# Align...Our thoughts



- What can we do to create better alignment within our teams and the community?
- What conversations do we need to have in order to lead change?




67

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# Break



68



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# Aspire

How do we get there

69



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## Aspire... Towards Stride Forward Sustainability Goals

- Describe the finest transportation system... how can we create it and promote our sustainability goals?

70



## Aspire... Towards Stride Forward Sustainability Goals

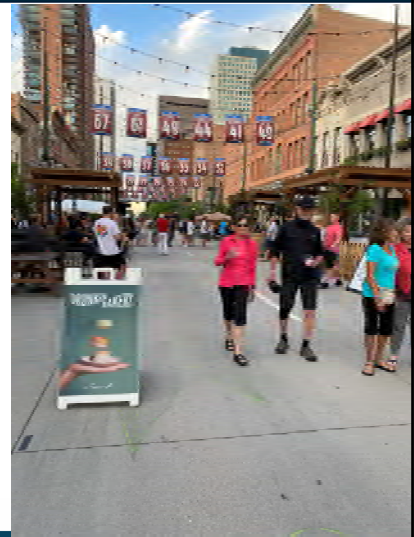
- What do we want to be different in the next year?
- Five years?
- Ten years?

71



## Aspire... Towards Stride Forward Sustainability Goals

- How can we involve others in the creation of the finest transportation system?
- How do we promote the culture of the finest transportation system?



72