JANUARY 27TH, 2022

STATEWIDE NON-MOTORIZED TRAFFIC MONITORING (NMTM) PROGRAM

Virtual Workshop

HOUSEKEEPING

- Comments/questions are encouraged during the breakout sessions, and towards the end of the workshop.
- To assist with bandwidth, attendees should have cameras off and be muted when not speaking
- Submit questions/comments in the chat.
- Workshop sessions are being recorded and will be available on the Non-Motorized Traffic Monitoring Program website.
- Please complete the follow-up survey that will be sent via email at the conclusion of this webinar.
- AICP CM/PDH credits are offered to attendees
- You must attend the entire session to be eligible for the credit hours
- All attendees will receive certificates via email soon after the webinar

AGENDA

- Program Update
- District 4 Update
- Palm Beach TPA site context
- Dutch Cycling Embassy breakout sessions
- Regroup
- Workshop closing

FDOT Statewide Non-Motorized Traffic Monitoring Program

2022 VIRTUAL WORKSHOP

Outreach
January 2022

Program Agenda
Audience: State of Florida and beyond
Webinar Hosts: FDOT, Palm Beach TPA, Dutch Cycling Embassy
Platform: Microsoft Teams
Webinar Organizer: Eric Katz (FDOT TDA/MARLIN in-house)

WEBINAR WORKSHOP OVERVIEW
NMTM Program Update, District 4 Site Selection, Tri-Rail Station Case Study

IN PARTNERSHIP WITH

PALM BEACH Transportation Planning Agency
DUTCH CYCLING EMBASSY
Kingdom of the Netherlands
RTA
TRI-RAIL

JANUARY 27 THURSDAY
10:00 AM – 12:00 PM (Eastern Time Zone)

10:00 AM	**WELCOME/PROGRAM UPDATE** Housekeeping, NMTM Update *Eric Katz, FDOT TDA/ Marlin Engineering Inc.*
10:15 AM	**DISTRICT 4 CONTINUOUS COUNTER SITE SELECTION** Review 5 incoming continuous counter locations *Kara Schwartz, FDOT District 4*
10:25 AM	**EL RIO TRAIL/BOCA TRI-RAIL STATION** Site context, history, lighting project *Alyssa Frank, Palm Beach TPA*
10:35 AM	**DUTCH CYCLING EMBASSY** 2-min intros *Chris Bruntlett and Dutch Cycling Embassy*
10:50 AM	**BREAKOUT SESSION LOGISTICS** Potential mini-brake *Eric Katz*
11:00 AM	**BREAKOUT ROOMS** *Dutch Cycling Embassy*
11:50 AM	**REJOIN GROUP** Highlight major takeaways, Final group questions *Chris Bruntlett & Breakout room leads*
12:00 PM	**CLOSING THANK YOU**

BREAKOUT ROOM 1:
BIKE TO TRAIN CONNECTIVITY

Dutch Cycling Embassy experts
- Thomas Straatemeier, Goudappel
- Ruben Loendersloot, Loendersloot Consultancy

Local Expert
- James Rinehart, Palm Beach TPA

Breakout room participants are encouraged to engage with the presenters by sharing stories verbally, asking questions/making comments in the chat, and displaying reactions.

FDOT TDA Traffic Monitoring Division

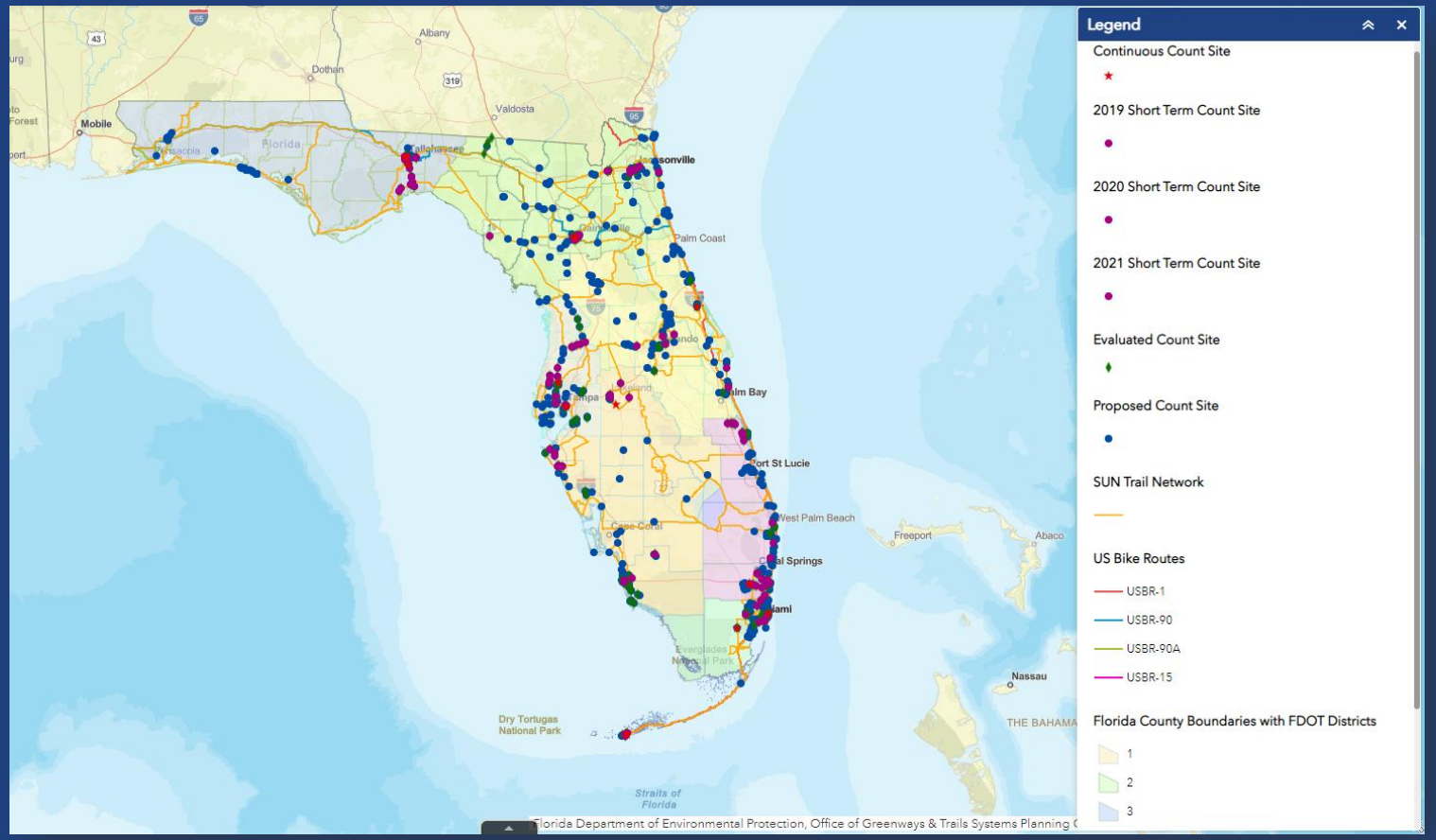
PROGRAM OVERVIEW

PURPOSE

To collect statistically valid bicycle and pedestrian (non-motorized) traffic volume data so that traffic volume statistics can be calculated and published annually.

Program Pillars

- Continuous Counts
- Short-term Counts
- Data Repository
- Outreach



SHORT-TERM COUNTS

- All 7 Districts
- 128 count stations
- Tubes, Infrared, Smart Cameras utilized
- 30+ agencies directly involved in deployments

District 3: Florida State University, Tallahassee, FL

District 2: City of Gainesville, FL

District 1:Immockalee, FL

SHORT-TERM COUNT 2021/2022 CALENDAR

ON-PEAK

- September 2021 – District 2
- October 2021 – District 3
- November 2021 – District 4
- December 2021 – District 6/D1 South
- January 2022 – District 5/D1 North
- February 2022 – District 7/D1 West

OFF-PEAK

- March 2022 – District 2
- April 2022 – District 4
- May 2022 – District 6/D1 South
- June 2022 – District 3
- July 2022 – District 5/D1 North
- August 2022 – District 7/D1 West

District 2: City of Gainesville, FL

District 6: Miami-Dade, FL

District 1: Collier County, FL

CONTINUOUS COUNTS

- Developed Maintenance schedule
- On-going Data QA/QC
- On-going Data analyses

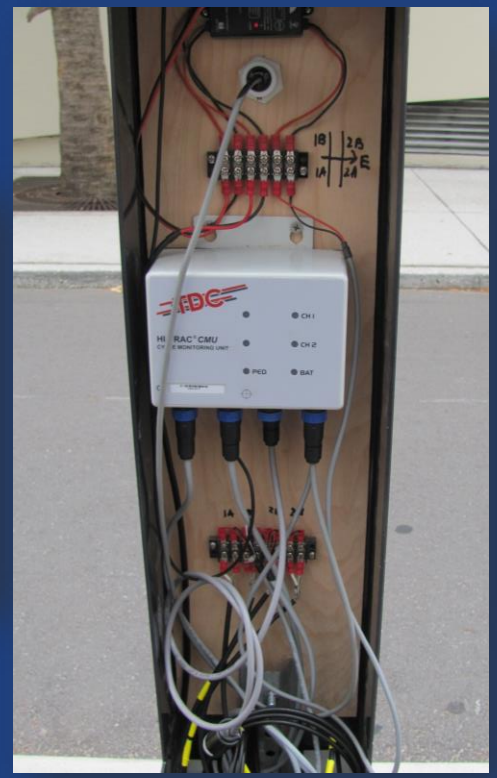
District 7: City of Tampa, FL

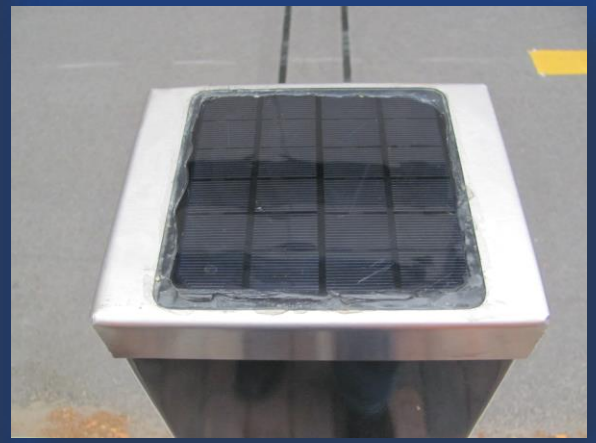
District 2: UF, City of Gainesville, FL

District 6: City of Key West, FL

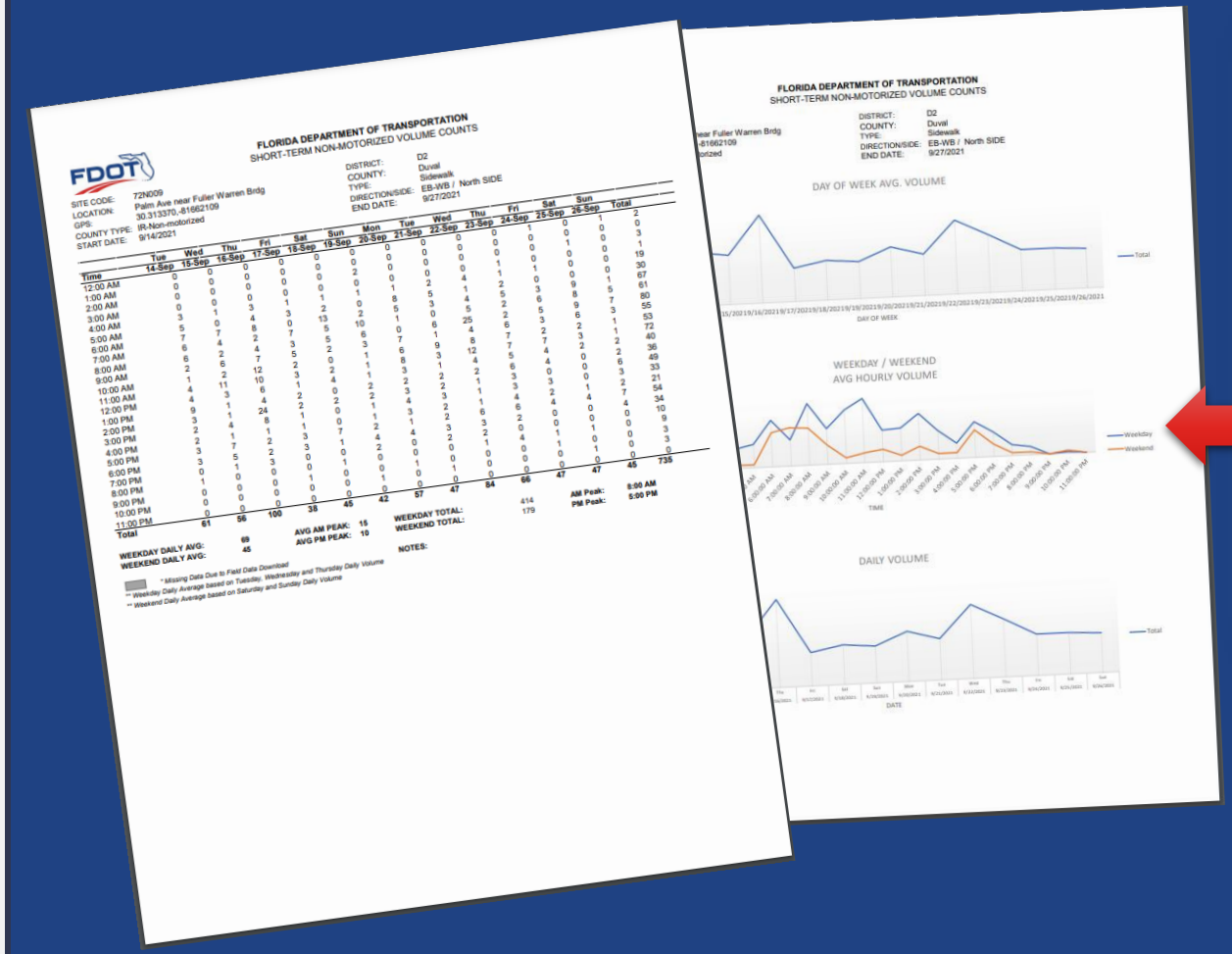
CONTINUOUS COUNTER MAINTENANCE

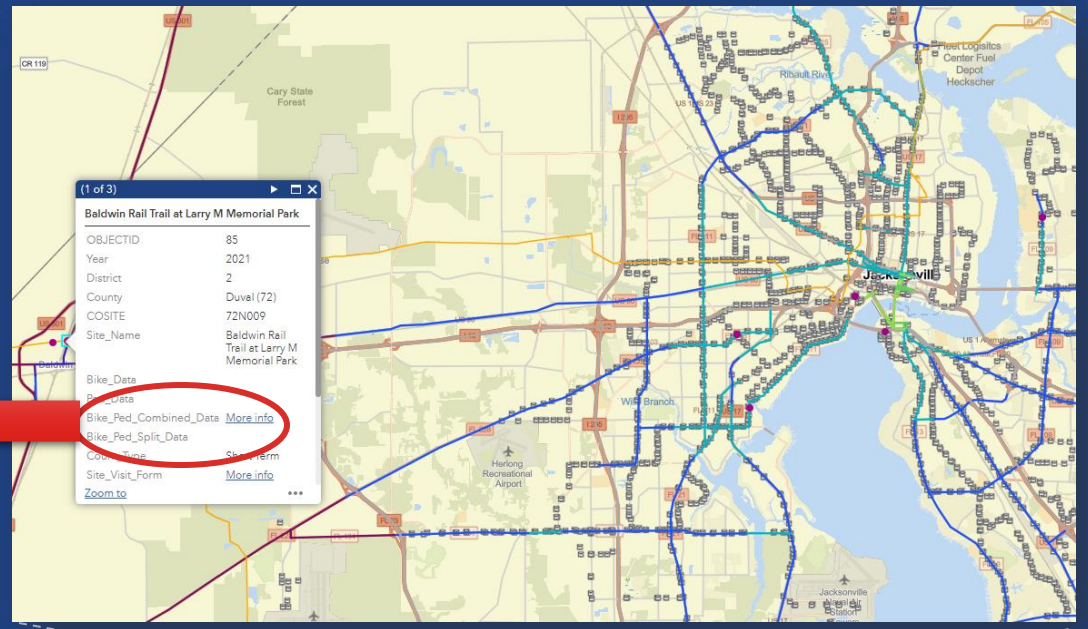
- Water intrusion
- Wildlife intrusion
- Vegetation control
- Solar panel upkeep
- Battery upkeep
- Sensor testing
- Unknown malfunctions
- Data extraction
  - Polling
  - Manual
- Rigorous data QC





NMTM REPOSITORY





https://fdot.maps.arcgis.com/apps/webappviewer/index.html?id=df6696c128514bb6b0c6710758fd050b

NMTM REPOSITORY

FLORIDA DEPARTMENT OF TRANSPORTATION
SHORT-TERM NON-MOTORIZED VOLUME COUNTS

SITE CODE:	72N007	DISTRICT:	D2
LOCATION:	Palm Ave Near Fuller Warren Bridge	COUNTY:	Duval
GPS:	30.313367, -81.662111	TYPE:	Sidewalk
COUNT TYPE:	Ped/Bike (Trafx IR)	DIRECTION/SIDE:	NB / East SIDE
START DATE:	9/14/2021	END DATE:	9/26/2021

Time	Tue 14-Sep	Wed 15-Sep	Thu 16-Sep	Fri 17-Sep	Sat 18-Sep	Sun 19-Sep	Mon 20-Sep	Tue 21-Sep	Wed 22-Sep	Thu 23-Sep	Fri 24-Sep	Sat 25-Sep	Sun 26-Sep	Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	2
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	2	0	0	0	0	0	1	0	3
3:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1
4:00 AM	3	1	3	1	1	1	1	2	4	1	1	0	0	19
5:00 AM	5	0	4	3	2	0	8	5	1	2	0	0	0	30
6:00 AM	7	7	8	0	13	2	5	3	4	5	3	9	1	67
7:00 AM	6	4	2	7	5	10	1	0	5	2	6	8	5	61
8:00 AM	6	2	4	3	5	6	0	6	25	2	5	9	7	80
9:00 AM	2	6	7	5	2	3	7	1	4	6	3	6	3	55
10:00 AM	1	2	12	2	0	1	6	9	8	7	2	2	1	53
11:00 AM	4	11	10	3	2	1	8	3	12	7	7	3	1	72
12:00 PM	4	3	6	1	4	1	3	1	4	5	4	2	0	38
1:00 PM	9	1	4	2	0	2	2	2	2	6	4	0	0	34
2:00 PM	3	1	24	2	2	2	3	2	1	3	0	0	0	43
3:00 PM	2	4	8	1	0	1	4	3	1	3	3	0	0	30
4:00 PM	2	1	1	1	0	1	3	2	1	4	2	1	0	19
5:00 PM	3	7	2	3	7	2	1	2	6	6	4	4	0	47
6:00 PM	3	5	2	3	1	4	4	3	3	2	0	0	0	30
7:00 PM	0	1	3	0	0	2	0	2	2	0	0	0	0	10
8:00 PM	1	0	0	0	1	0	0	0	1	4	1	1	0	9
9:00 PM	0	0	0	1	0	0	1	0	0	0	1	0	0	3
10:00 PM	0	0	0	0	0	1	0	1	0	0	0	1	0	3
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**61**	**56**	**100**	**38**	**45**	**42**	**57**	**47**	**84**	**66**	**47**	**47**	**19**	**709**

WEEKDAY DAILY AVG:	**69**	**AVG AM PEAK:**	**15**	**WEEKDAY TOTAL:**	414	**AM Peak:**	**8:00 AM**
WEEKEND DAILY AVG:	**38**	**AVG PM PEAK:**	**9**	**WEEKEND TOTAL:**	153	**PM Peak:**	**5:00 PM**

* *Missing Data Due to Field Data Download*

** *Weekday Daily Average based on Tuesday, Wednesday and Thursday Daily Volume*

** *Weekend Daily Average based on Saturday and Sunday Daily Volume*

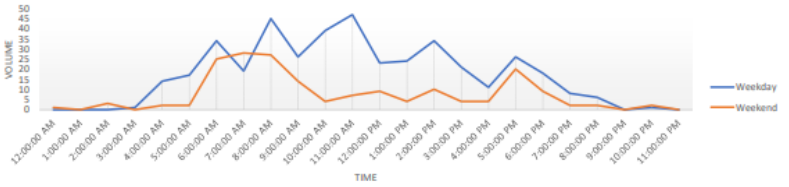
NOTES:

FLORIDA DEPARTMENT OF TRANSPORTATION
SHORT-TERM NON-MOTORIZED VOLUME COUNTS

SITE CODE:	72N009	DISTRICT:	D2
LOCATION:	Palm Ave near Fuller Warren Brdg	COUNTY:	Duval
GPS:	30.313370,-81662109	TYPE:	Sidewalk
COUNTY TYPE:	IR-Non-motorized	DIRECTION/SIDE:	EB-WB / North SIDE
START DATE:	9/14/2021	END DATE:	9/27/2021

DAY OF WEEK AVG. VOLUME

WEEKDAY / WEEKEND
AVG HOURLY VOLUME



DAILY VOLUME

OUTREACH

NMTMP National Outreach

- FHWA Non-Motorized Peer Exchange
- National Travel Monitoring Exposition and Conference June 13 –17, 2022

NMTMP Statewide Outreach

- Newsletters, Webinars, Statewide meetings, Trainings
- Numerous local agency presentations

PROGRAM WEBSITE

fdot.gov/statistics/trafficdata/florida-non-motorized-traffic-monitoring

FDOT | OFFICES | MAPS & DATA | CONTACT | ABOUT | PROJECTS | RESOURCES | NEWSROOM | CAREERS

- Would you like to propose a non-motorized count station? Please click here to fill out a Questionnaire

Statewide Outreach

Outreach is an ongoing dynamic process of keeping the state and other agency staff informed as to the program status, as well as discovering opportunities to collaborate with other entities to maximize non-motorized traffic monitoring data collection resources. See numerous resources below.

Please contact Eric.Katz@dot.state.fl.us for more information.

Resources:

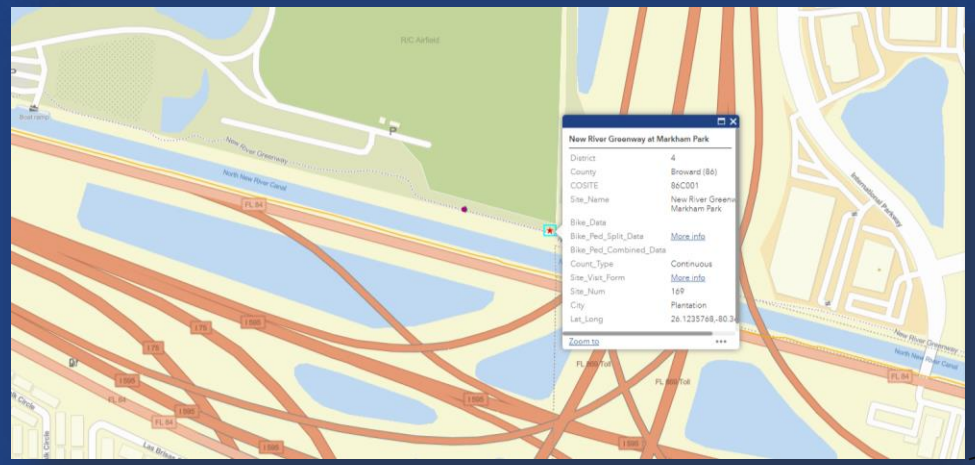
- Reports
  - Recommendations Report #1
  - Recommendations Report #2
- Statewide Meetings
  - FDOT Statewide Non-Motorized Traffic Monitoring Program - Virtural Workshop (2022) See the flyer to register
- Newsletters
  - Newsletter #1
  - Newsletter #2
  - Newsletter #3
- Webinars
  - Webinar #1 (Feb. 2019) Statewide Non-Motorized Traffic Monitoring Program Overview - PDF
  - Webinar #2 (Jan. 2020) Statewide Non-Motorized Traffic Monitoring Program Overview - PDF
  - Webinar #3 (May 2021) Program Update and Continuous Counts Focus - PDF | Video
  - Webinar #4 (May 2021) Short-term Counts focus and Partnership Details - PDF | Video
  - Webinar #5 (May 2021) Data Application Case Studies - PDF | Video
  - Webinar #6 (May 2021) National and International Perspectives - PDF | Video

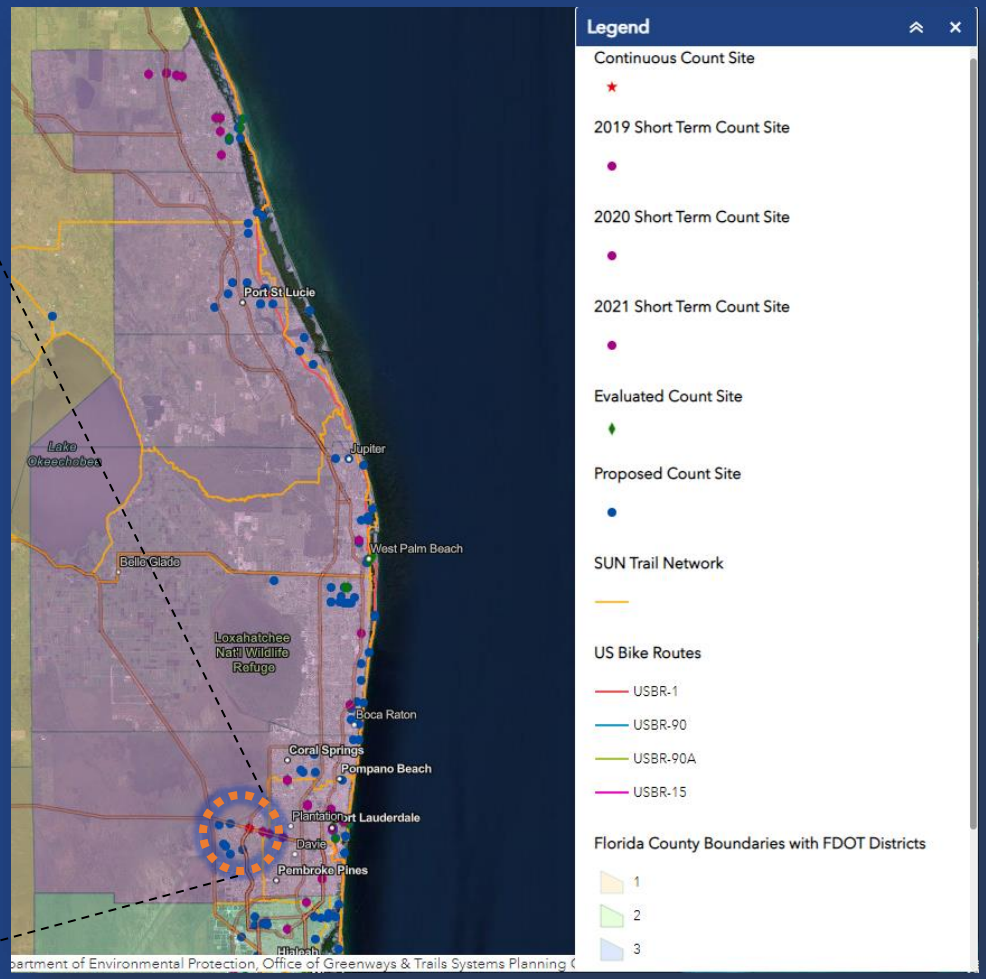
https://www.fdot.gov/statistics/trafficdata/florida-non-motorized-traffic-monitoring

KARA SCHWARTZ-DIMAINA

FDOT District 4 Traffic/Roadway Characteristics Inventory Project Manager

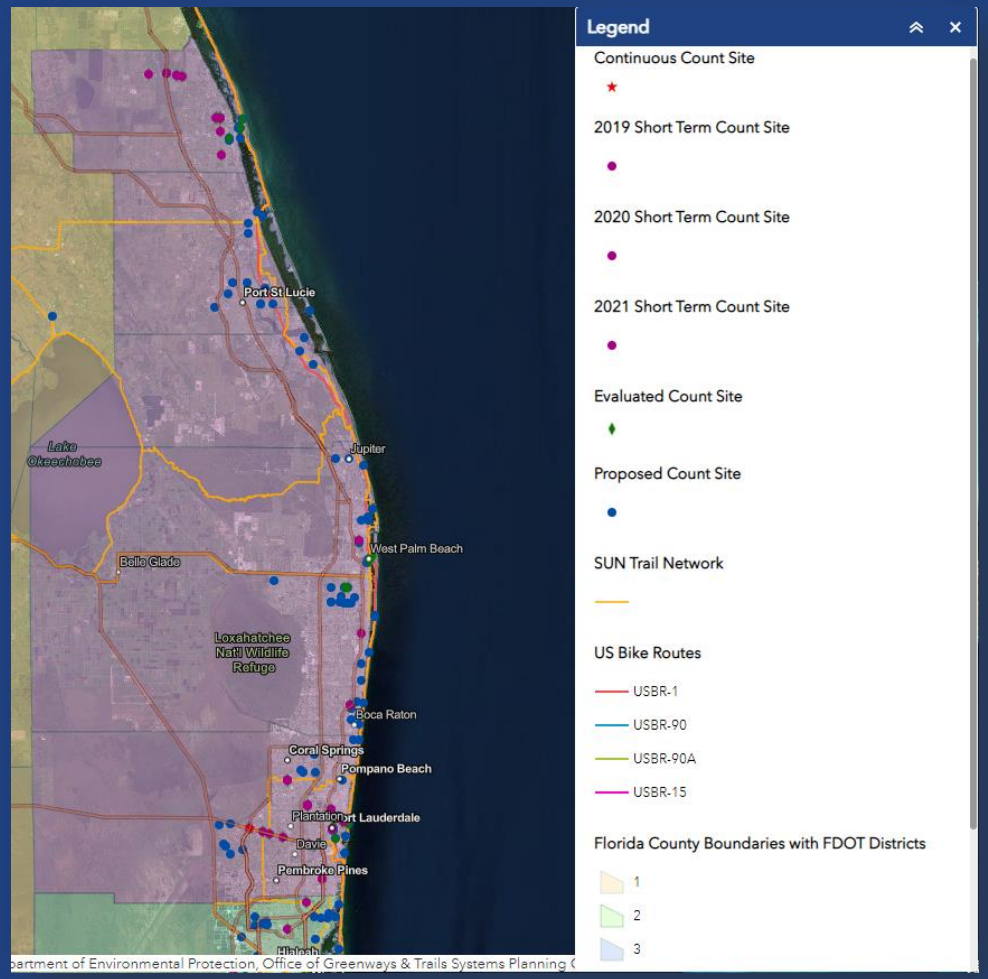
NEW RIVER GREENWAY EXISTING COUNTER



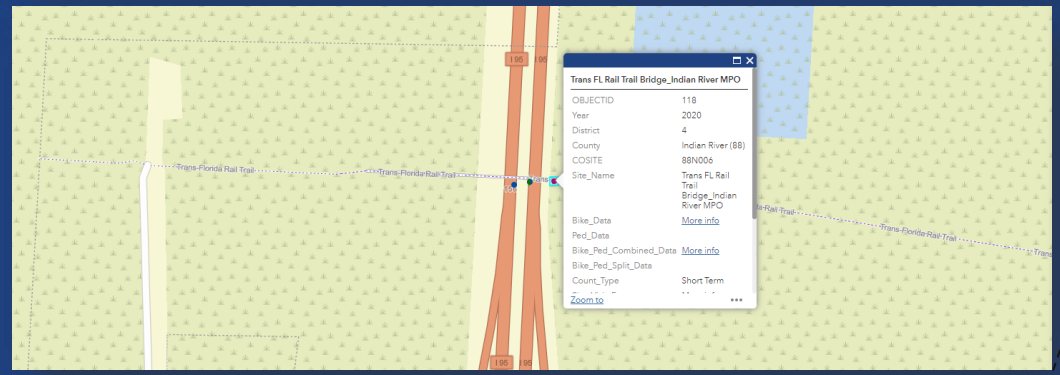


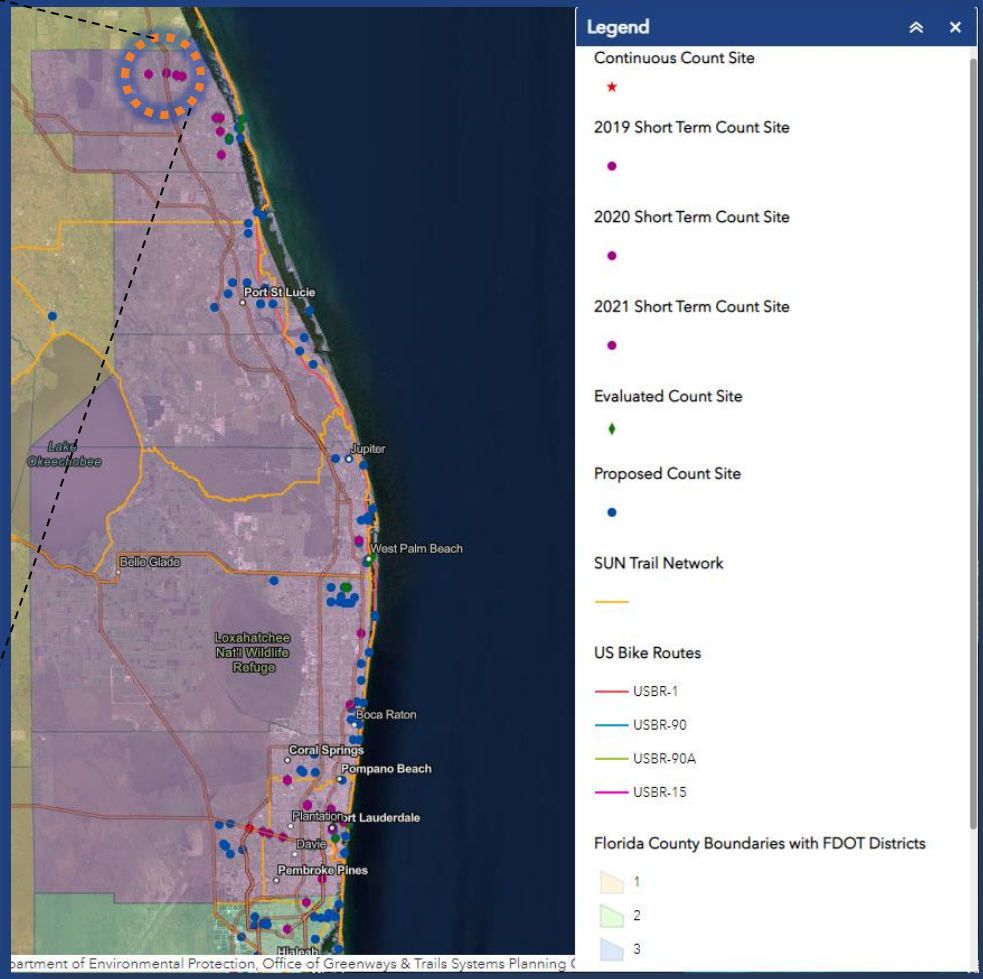
DISTRICT 4 CONTINUOUS COUNTERS

- District 4 allocated operating funds to the FDOT Non-motorized Traffic Monitoring Program for 5 continuous counter locations to be installed
- Once installed, FDOT Transportation Data and Analytics (TDA) will manage the maintenance of the counters
- District 4, TDA, and partners worked together during the site selection process
- The 5 sites are the following….

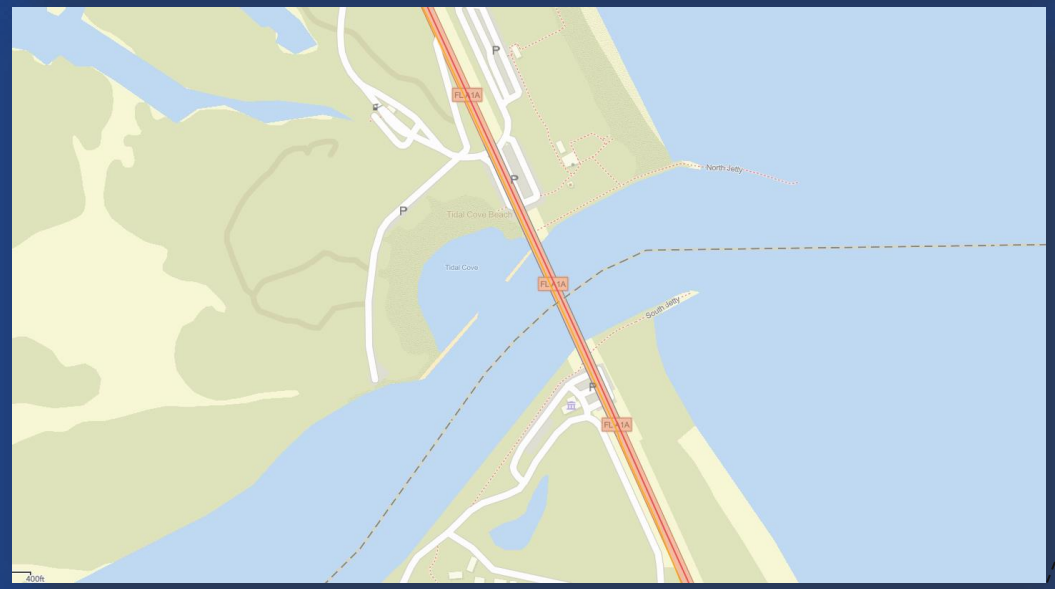


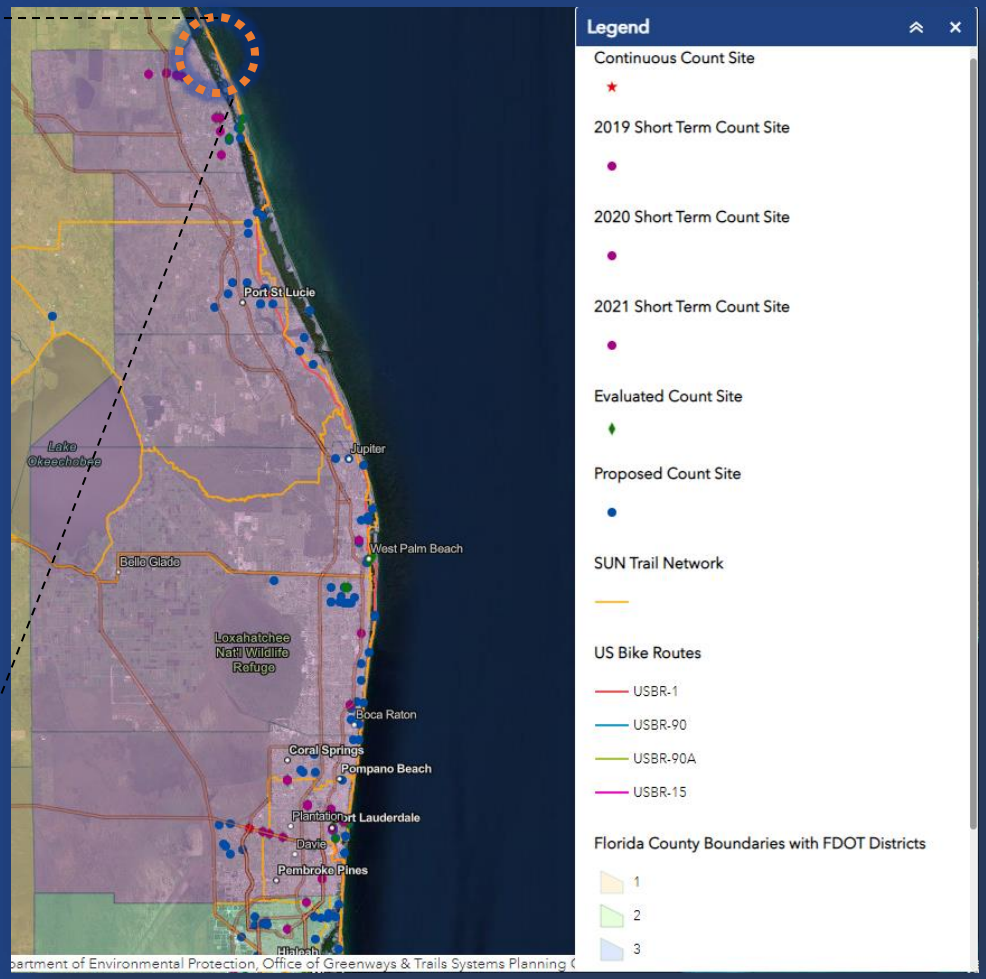
SITE 1: TRANS FLORIDA RAIL TRAIL, INDIAN RIVER COUNTY



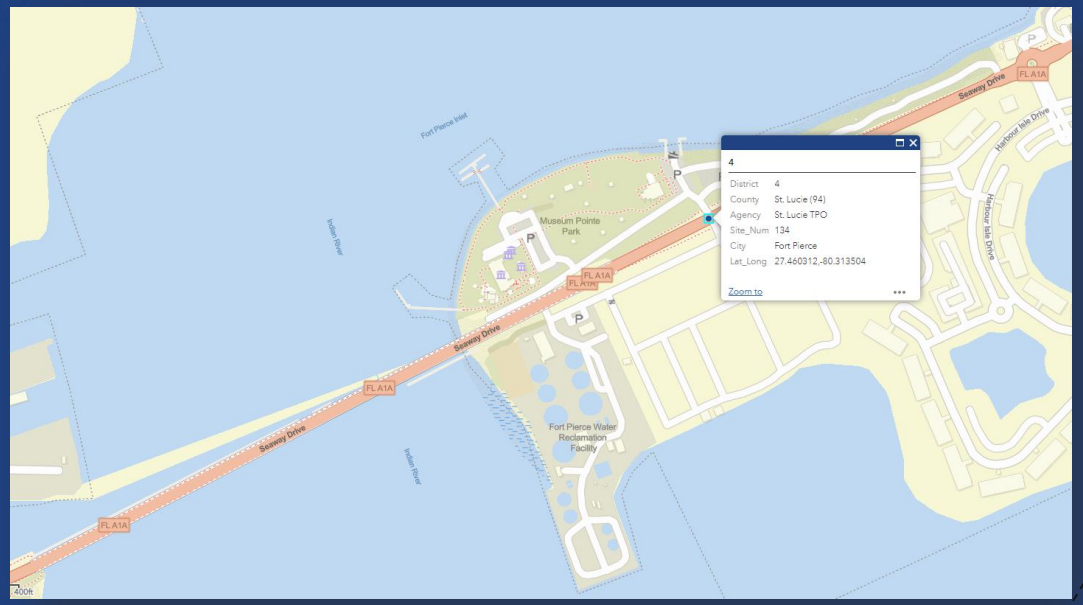


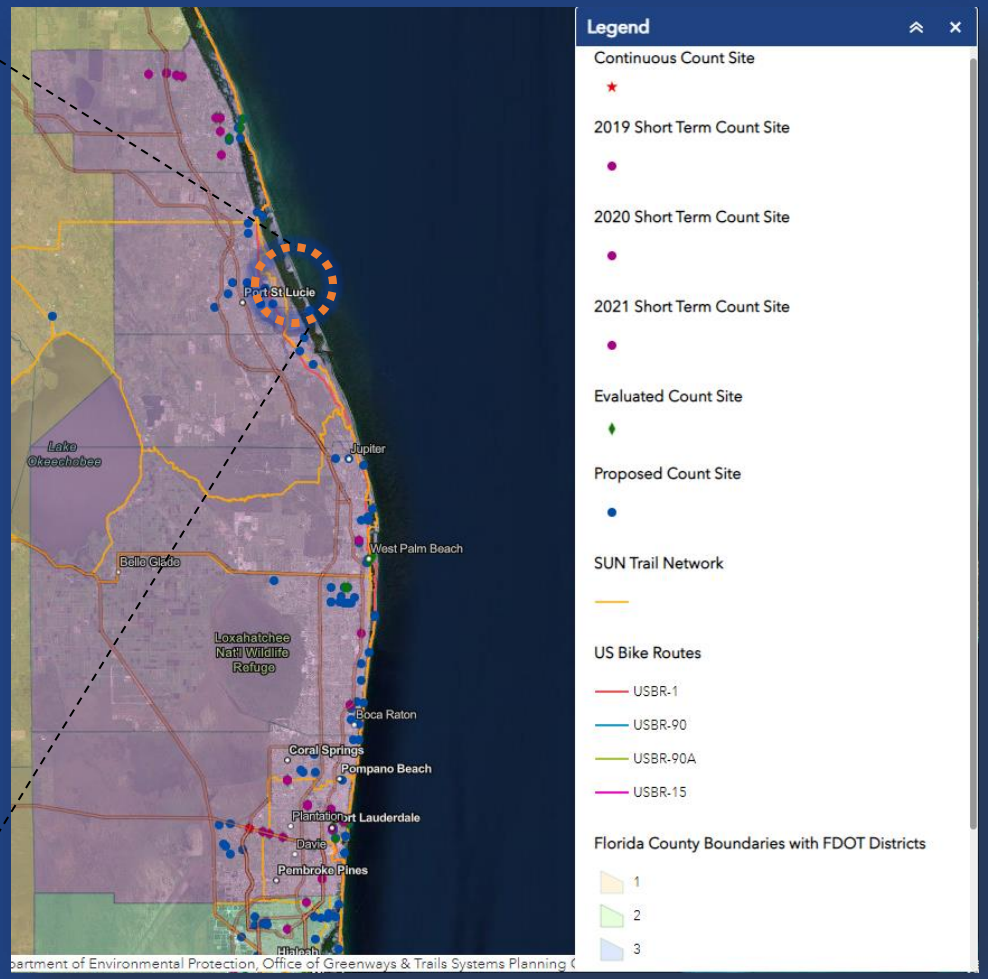
SITE 2: A1A @ SEBASTIAN INLET, INDIAN RIVER COUNTY



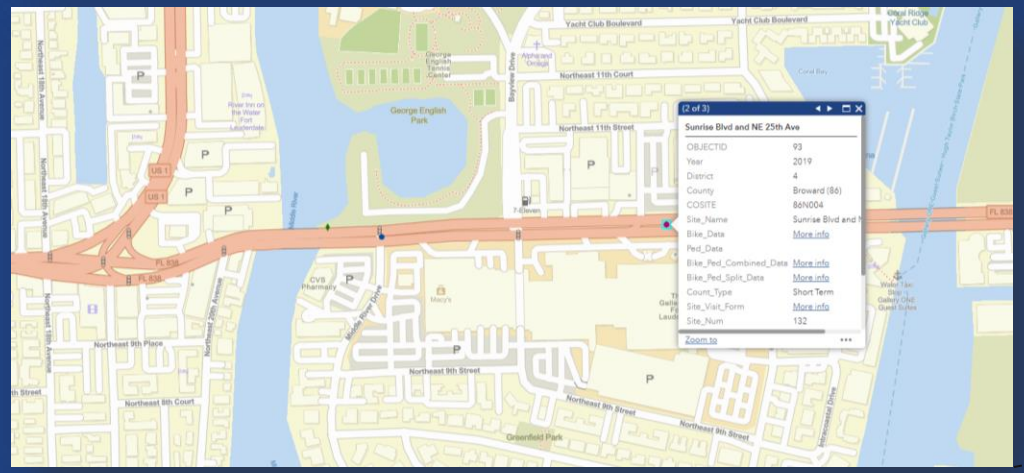


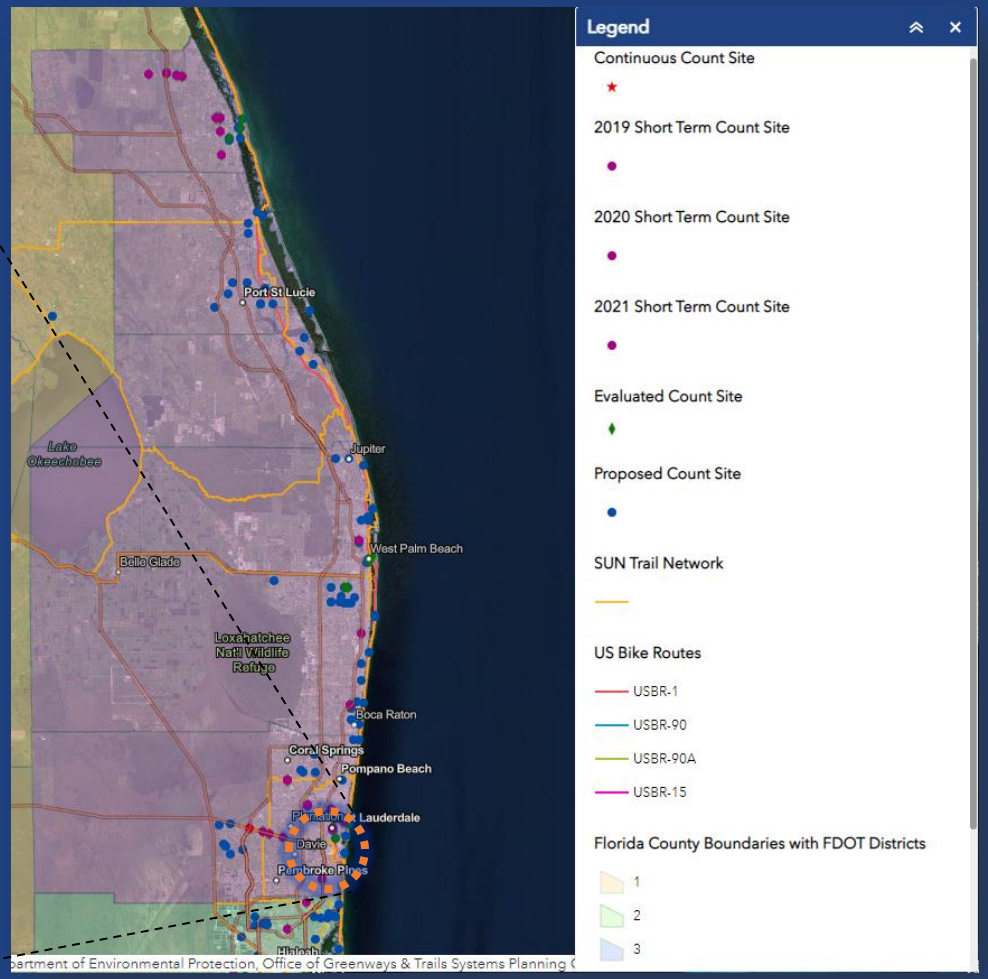
SITE 3: A1A @ SOUTH CAUSEWAY BRIDGE, ST. LUCIE COUNTY



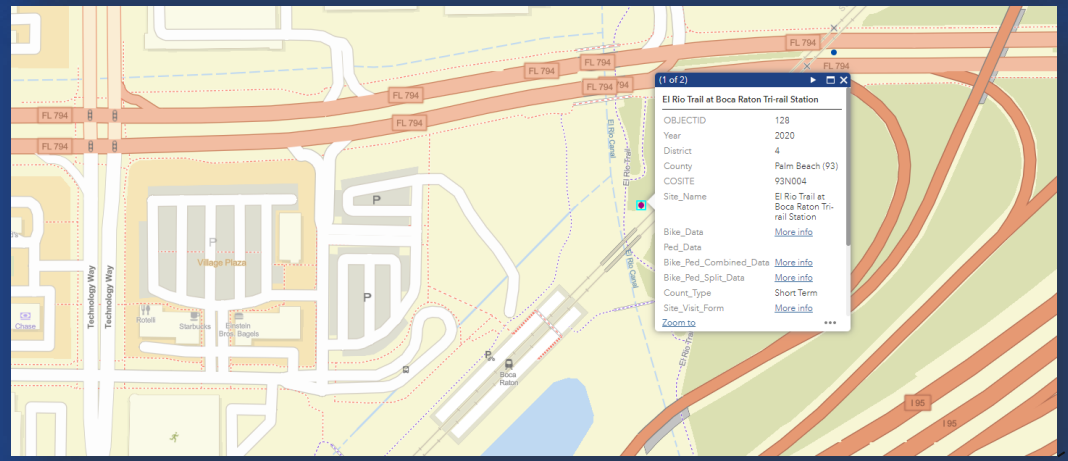


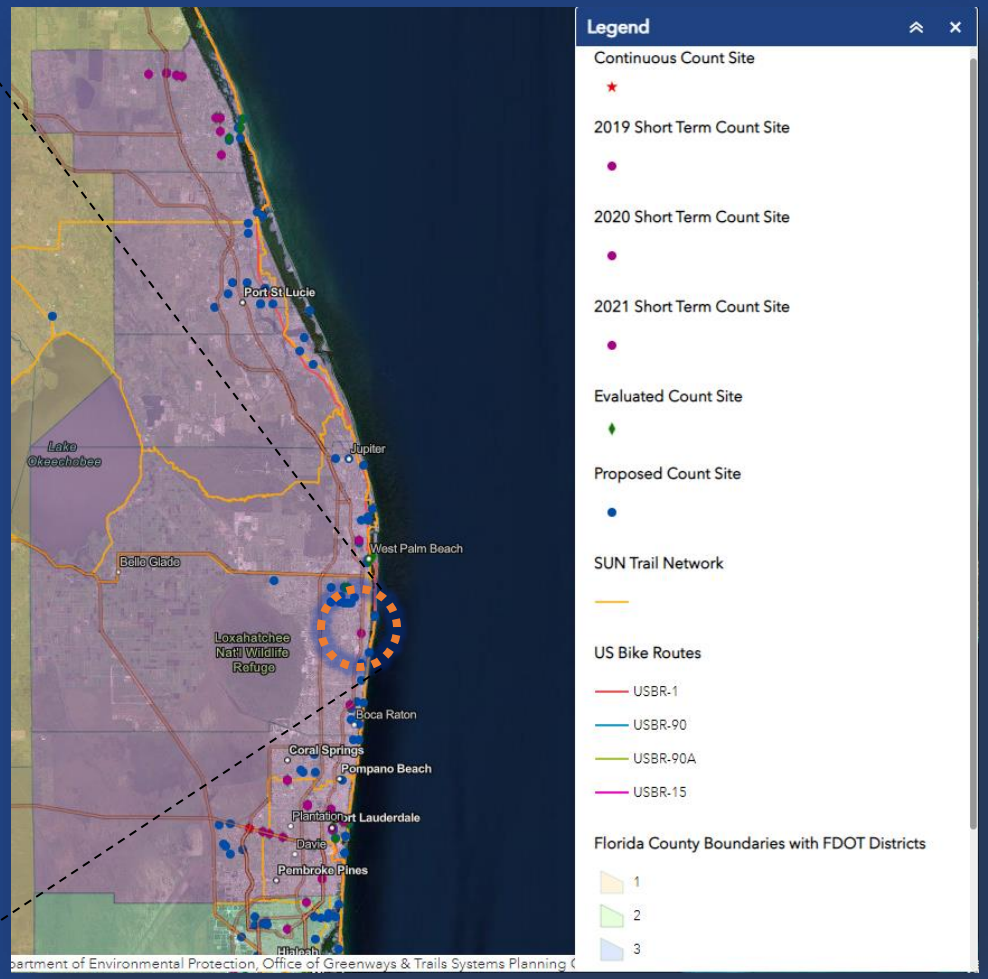
SITE 4: SR-838/SUNRISE BLVD. @ NE 25TH AVE., BROWARD COUNTY



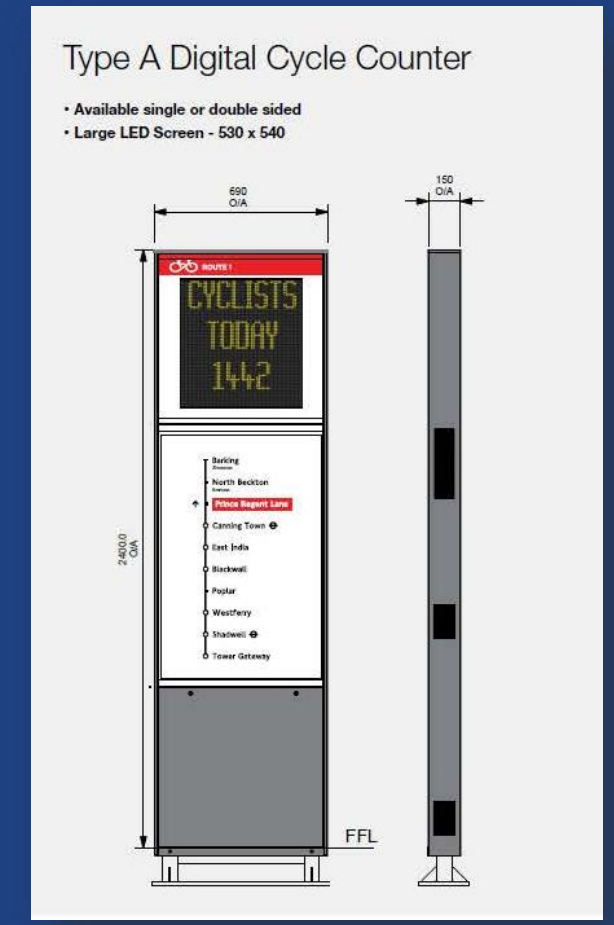


SITE 5: BOCA RATON TRI-RAIL/EL RIO TRAIL, PALM BEACH COUNTY





RESEARCHING PUBLIC COUNTER DISPLAY



FDOT

ALYSSA FRANK

Transportation Planner

PALM BEACH
Transportation
Planning Agency

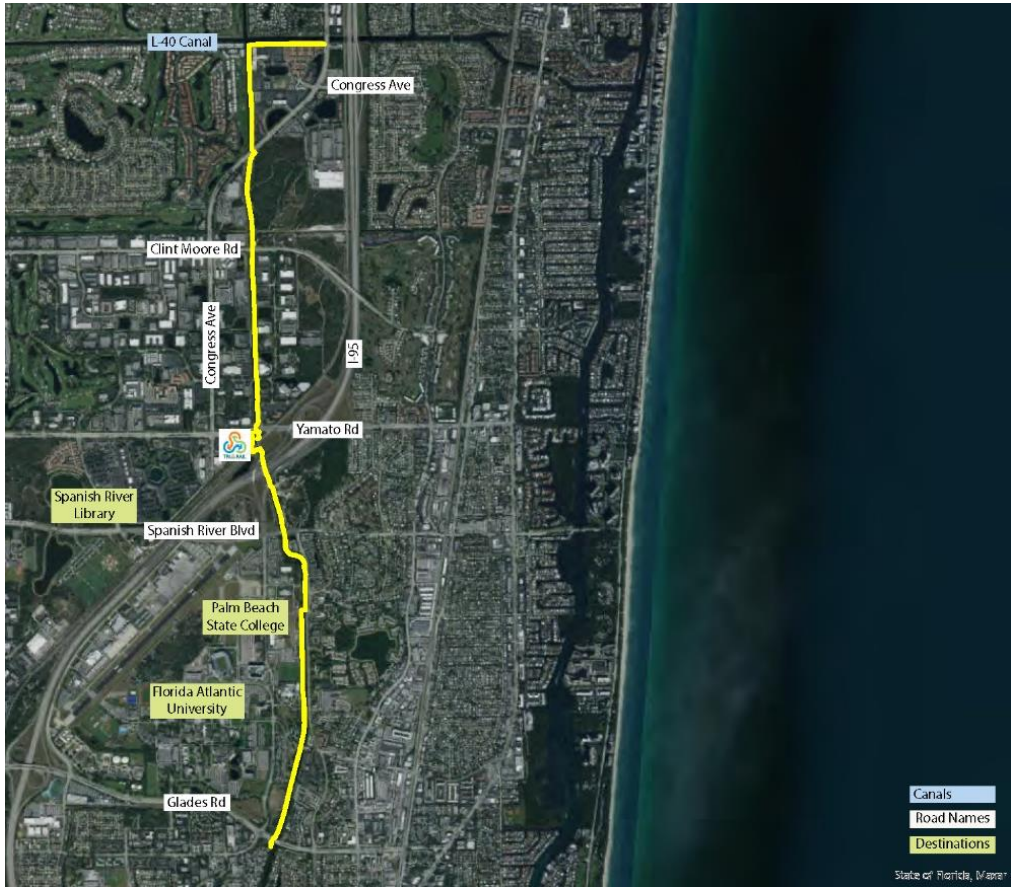
Learning about the El Rio Trail
in Boca Raton, FL

Alyssa Frank, Pedestrian Bicycle Coordinator
Palm Beach Transportation Planning Agency

About the El Rio Trail

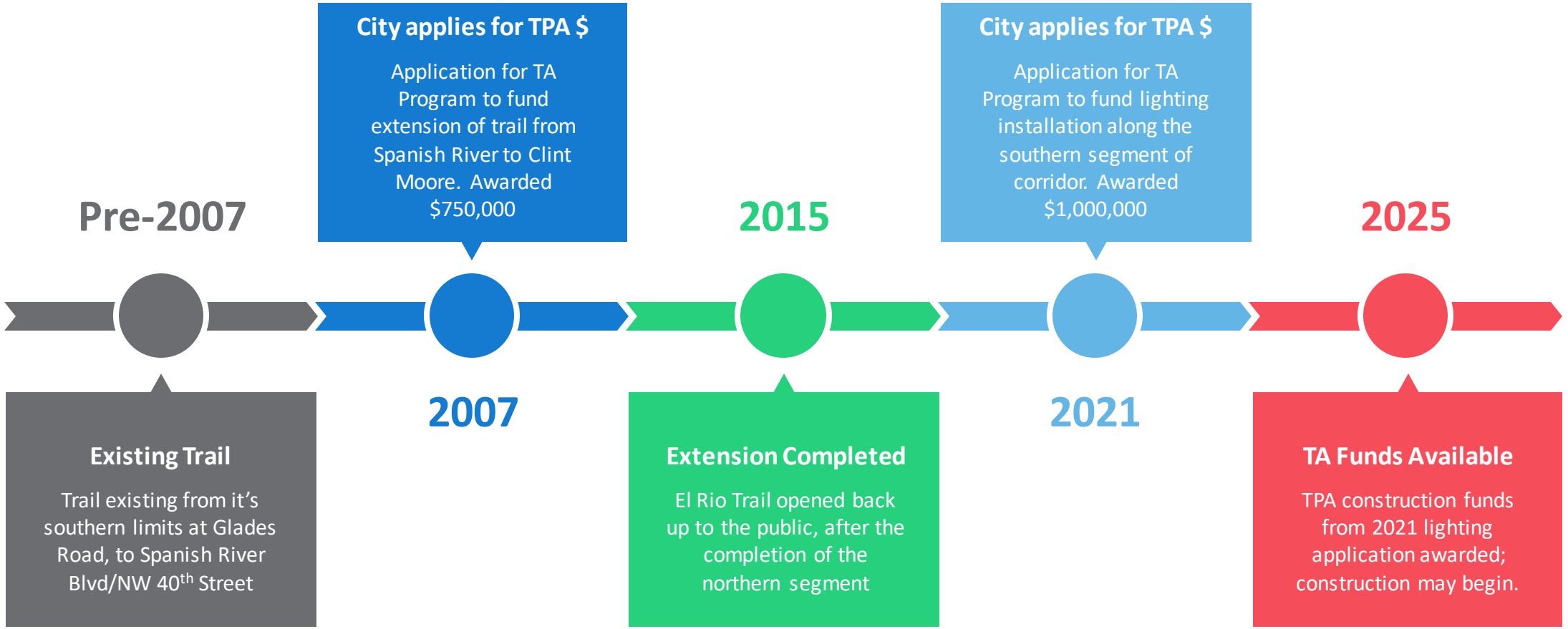
- 4.7-mile facility in Boca Raton, FL
- 12’ shared use path
- Connects to various destinations:
  - Florida Atlantic University
  - Palm Beach State College
  - Spanish River Library
  - Boca Raton Tri-Rail Station

Utilized by:



The El Rio Trail Today

History of the Trail



What was funded in 2007?

El Rio Trail at Clint Moore Road

2007

2021

What was funded in 2007?

El Rio Trail at Congress Avenue

2007

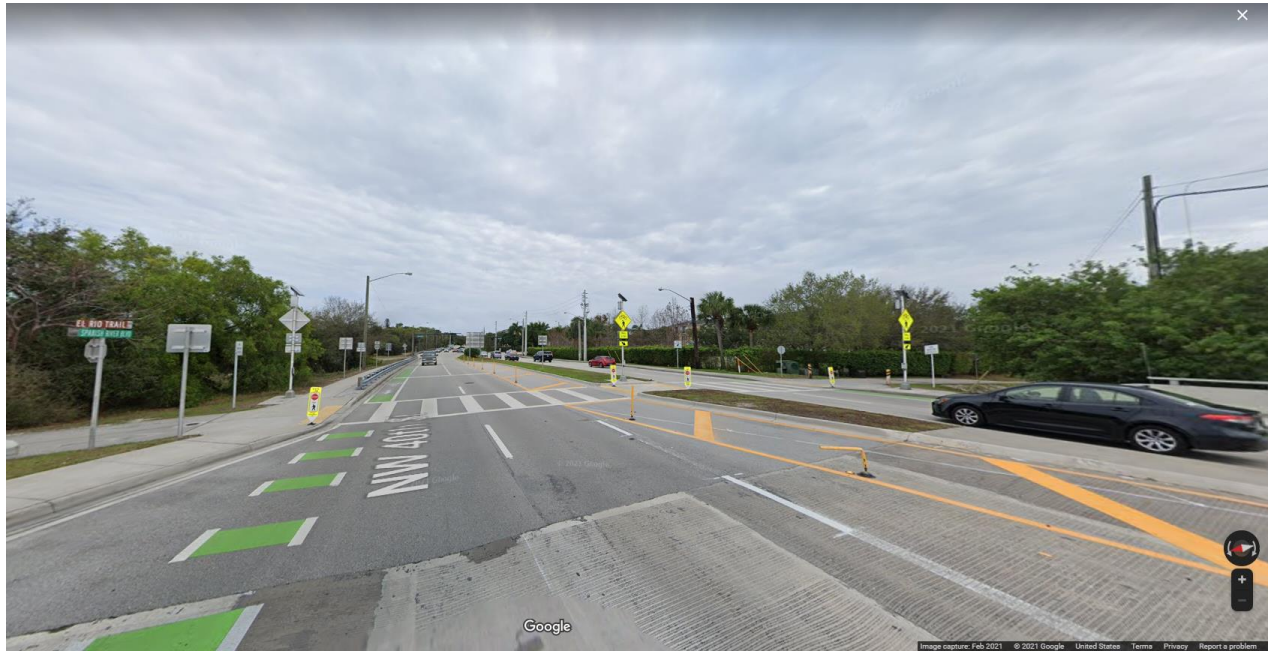
2021

What was funded in 2007?

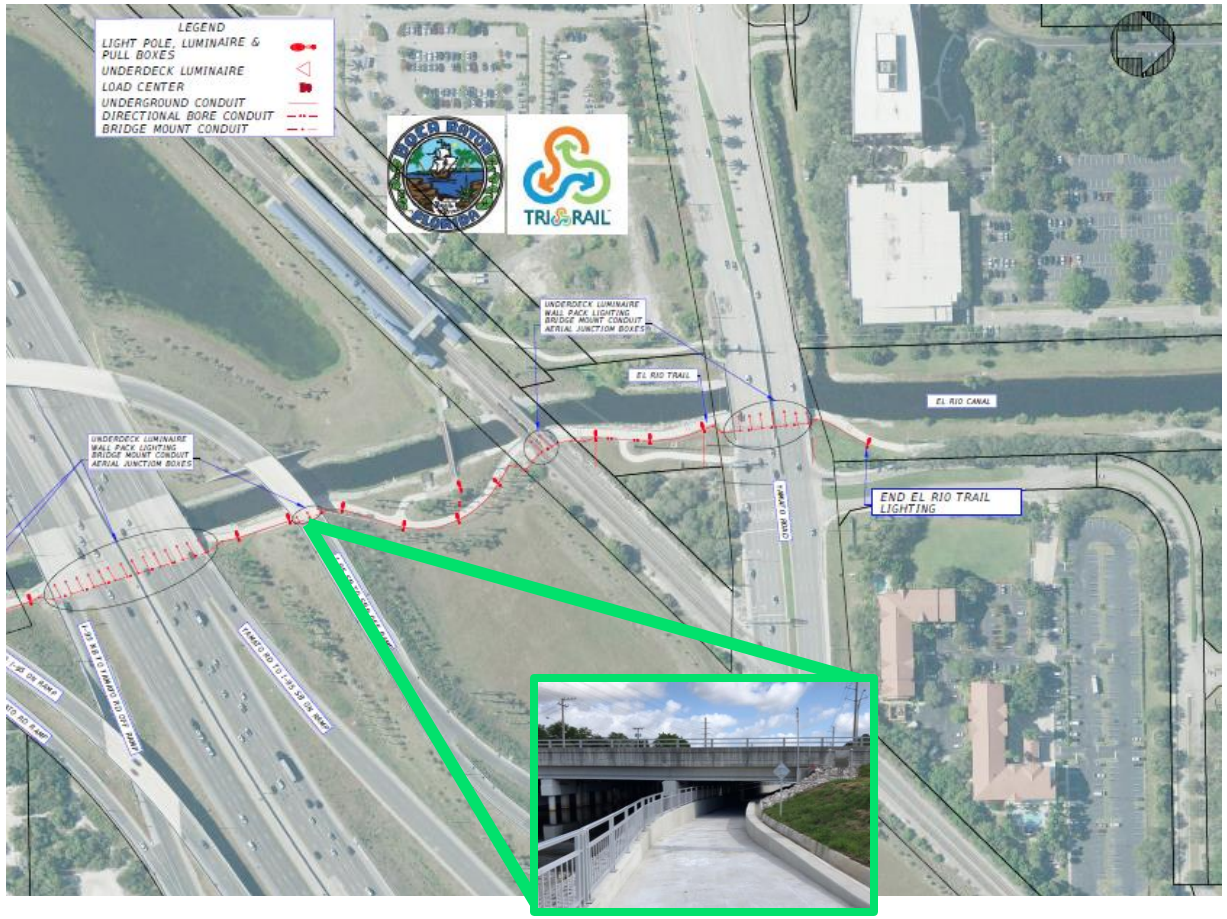
El Rio Trail at Spanish River Boulevard

2007

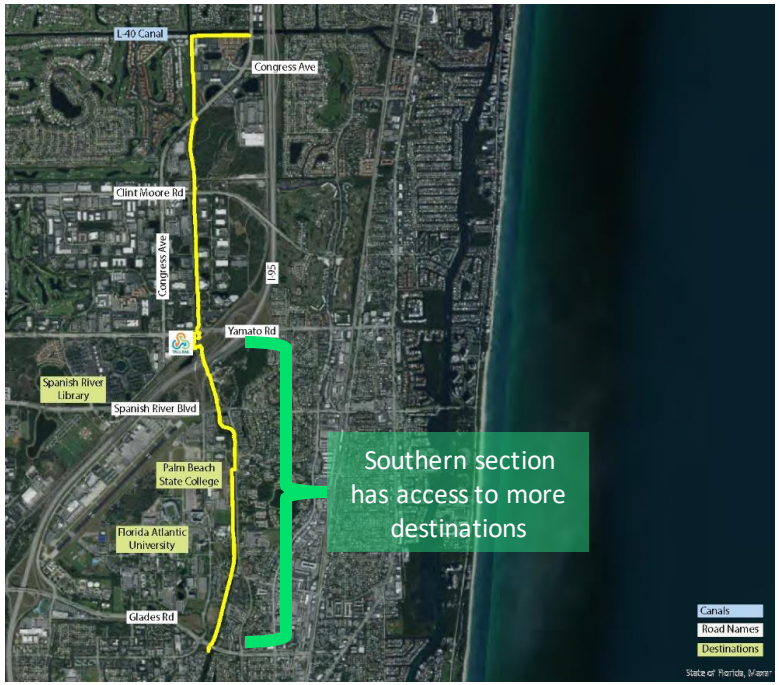
2021



What will be funded in 2025?

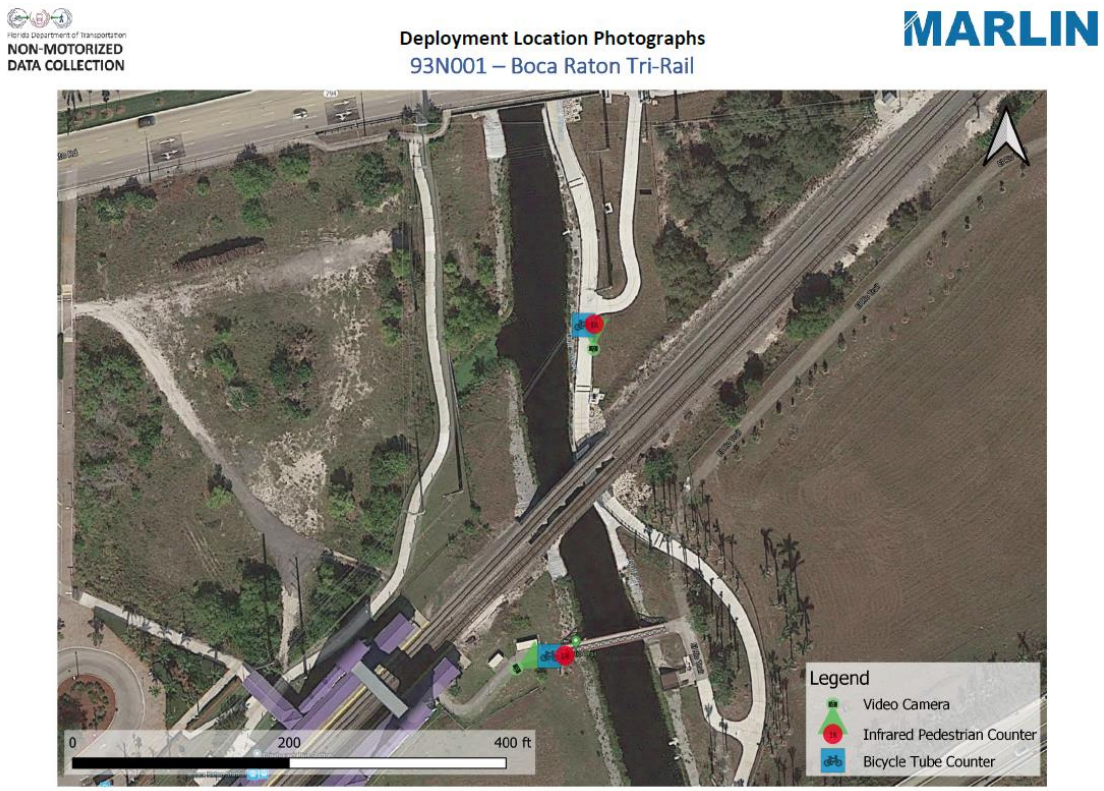


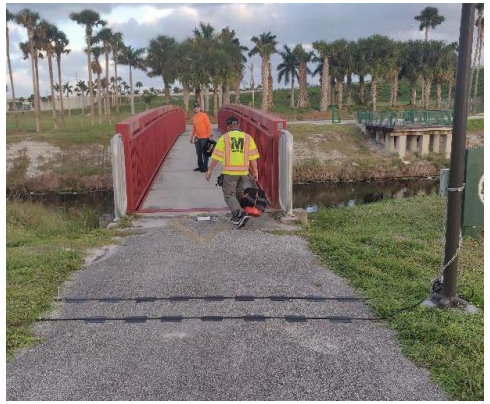
- Lighting along South section of trail
  - Glades Road to Yamato Road

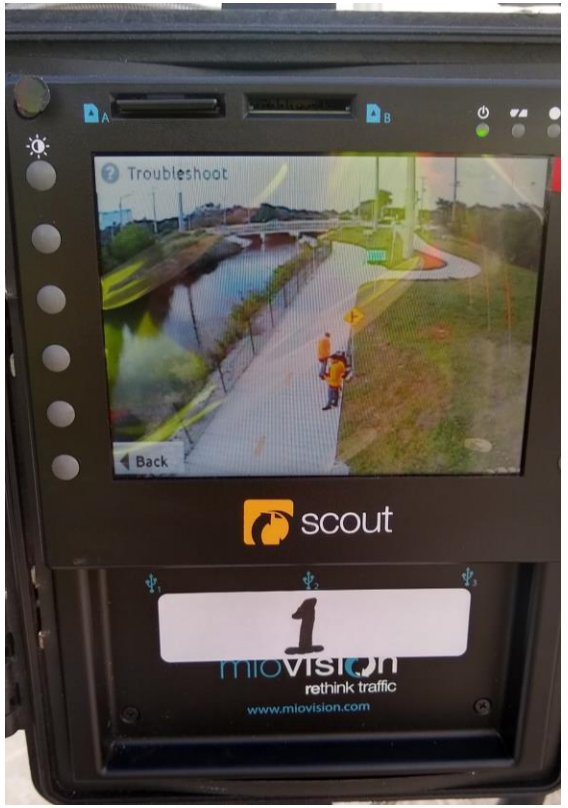


Bicycle Counts: January 2020

January 10 – 22, 2020: TDA installed pneumatic tubes and infrared counters



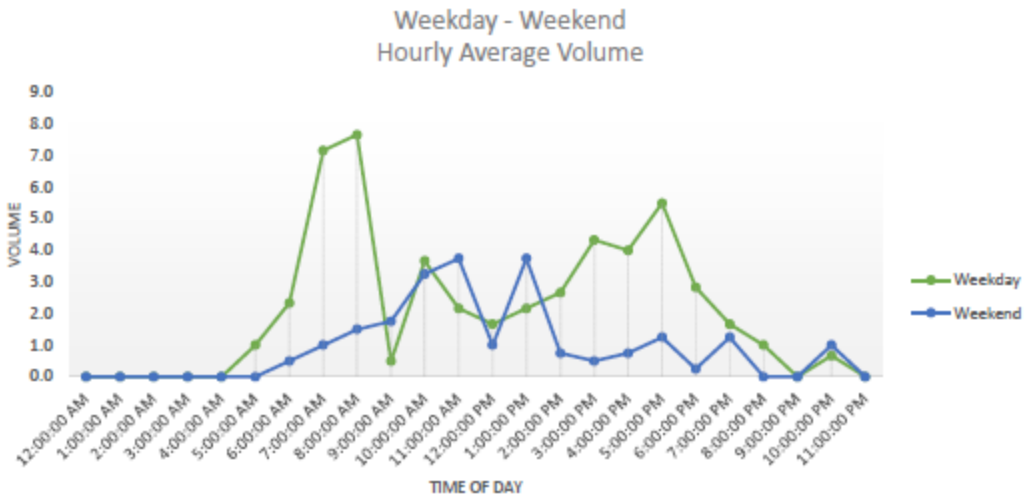


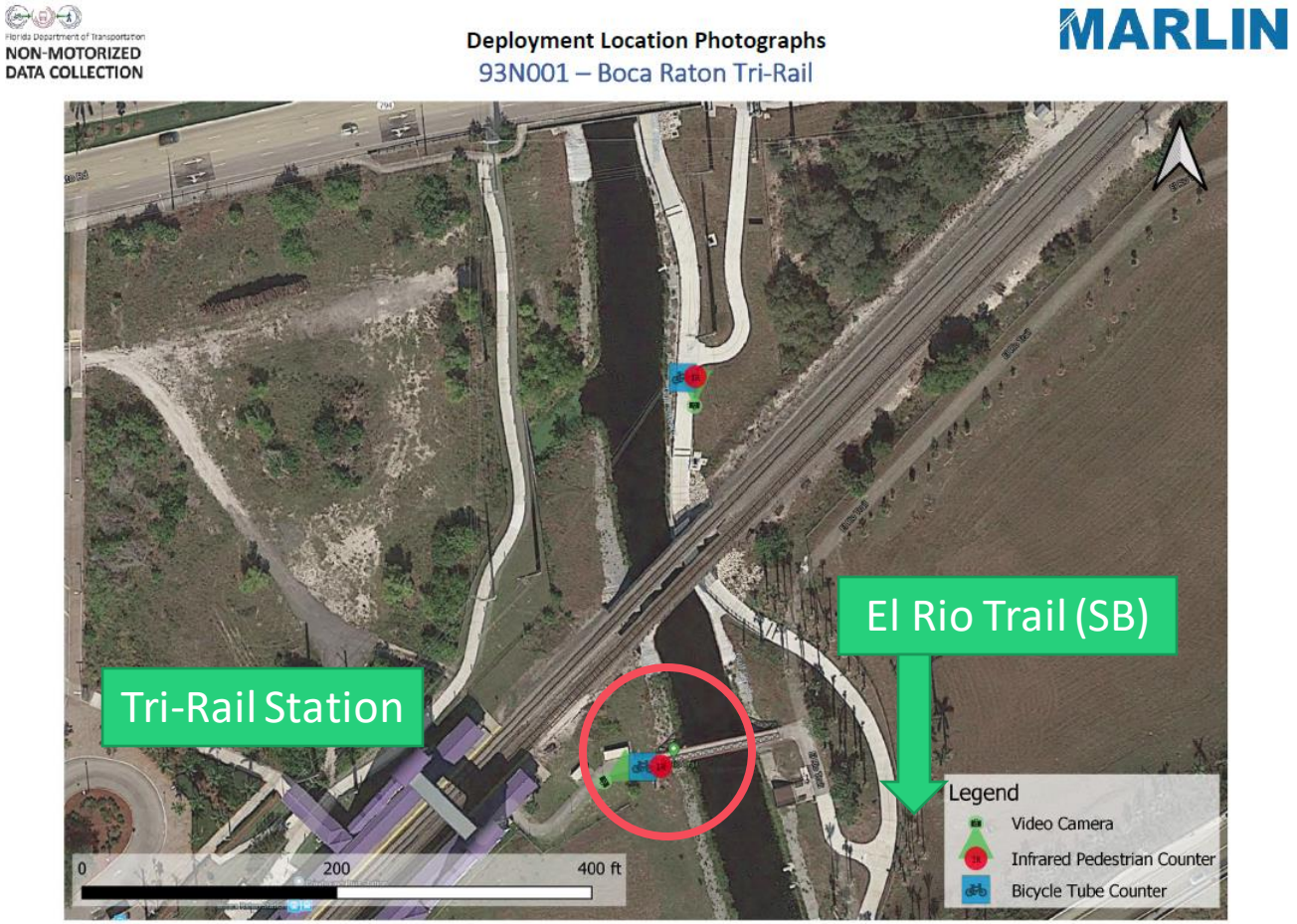


What the numbers tell us

El Rio Trail Counts - January 2020:

- Peak AM (SB): 8:00 AM hour
- Peak PM (SB): 5:00 PM hour





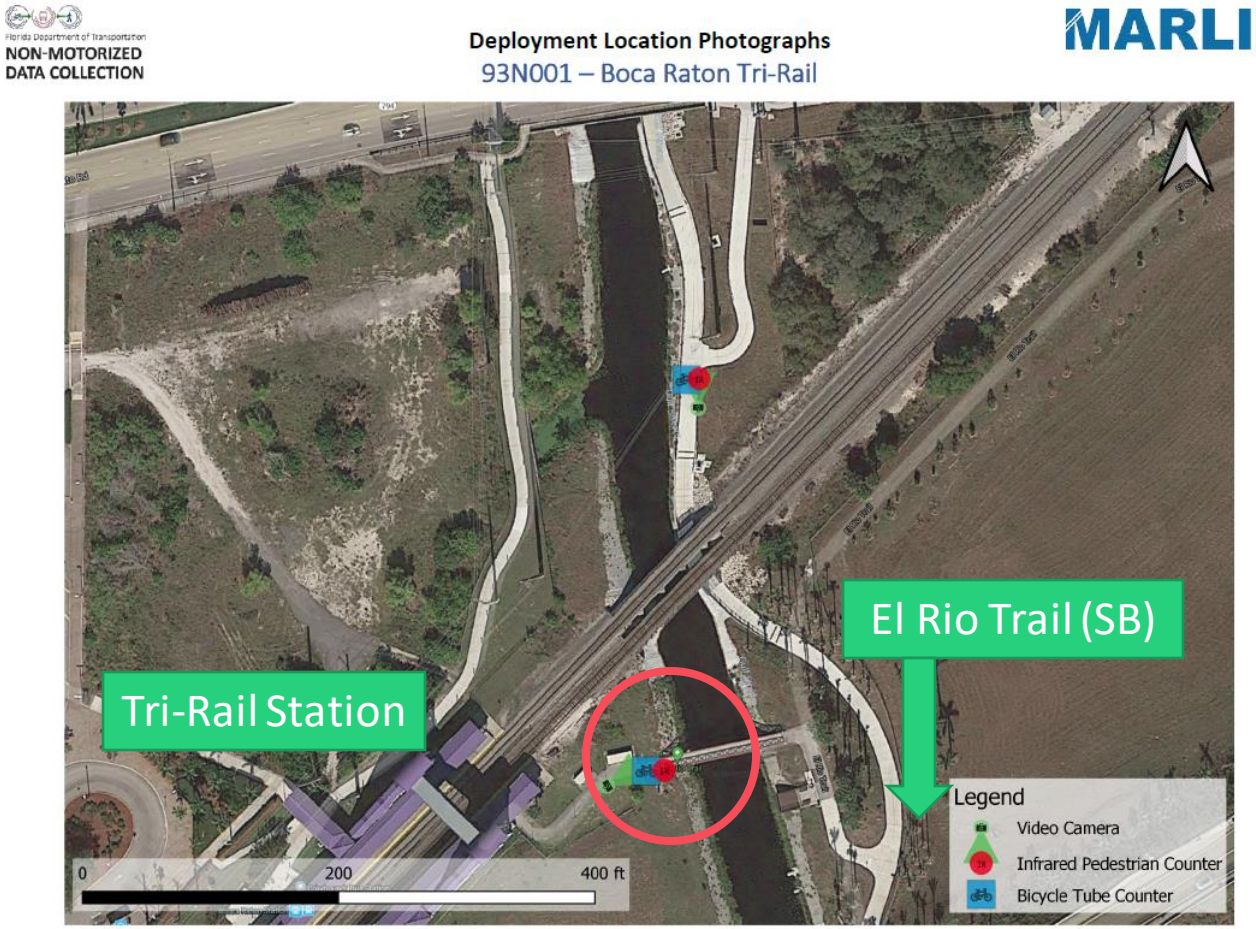
What the numbers tell us

Tri-Rail Ridership - January 2020:

- Peak AM: 8:00 AM hour
- Peak PM: 4:00 PM hour

Similarities in peak times suggest high utilization of trail as transportation

Need for greater network of Shared Use Paths



Thank you!

AFrank@PalmBeachTPA.org

FDOT

CHRIS BRUNTLETT

Marketing & Communications Manager

NL Netherlands

DUTCH CYCLING EMBASSY

DUTCH CYCLING EMBASSY

NL Netherlands

Non-Motorized Transport Virtual Workshop

Dutch Cycling Embassy • NL Consulate General in Miami

Thursday, January 27th, 2021

Dutch Cycling: For a Bicycle-Friendly World

The Dutch Cycling Embassy is a vast network of public and private organizations from the Netherlands who wish to share their knowledge and expertise to help cities experience the many advantages of cycling.

Experience the Dutch cycling culture first-hand

Think about best possible solutions and achievable results

Act by applying these solutions to your local context

Learn more about effective policies and best practices

www.dutchcycling.nl


&Morgen
3pm
wieler.nl
ABEL sensors
AMS TERDAM CYCLE CHIC.
ARGALEO FROM DATA TO VALUE
ARTGINEERING
ARUP
BD+P Beccan Davila Puentes Architects and Planners
BICYCLE DUTCH
bike.box
Bike minded Design Consulting
BOUGH BIKES be moved by nature
Breda University OF APPLIED SCIENCES
BYCS
cargoroo
ColorFalt Solutions
COLOURED ASPHALT
ColVitro
kennisplatform CROW
cycledata
cyclomedia
DECISIO ECONOMISCH ONDERZOEK EN ADVIES
DOLLY-BAKFIETS
DONKEY REPUBLIC
DTV CAPACITY BUILDING
Een nieuwe kijk
FALCO
Fietsdiensten.nl
fietsDock smart · safe · simpel
Fietsersbond
FIETSHANGAR COLLECTIVE URBAN BIKE STATIONS
FOLKERSMA
Gazelle
Geert Kloppenburg
Gemeente Amsterdam
VREDE EN RECHT Den Haag
Gemeente Utrecht
Gemeente Rotterdam
GoDutchCycling RVDB Urban Planning / Lightrail.nl
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HOD WORKS
humankind.
i&o research
Ministerie van Infrastructuur en Waterstaat
Leendersloot
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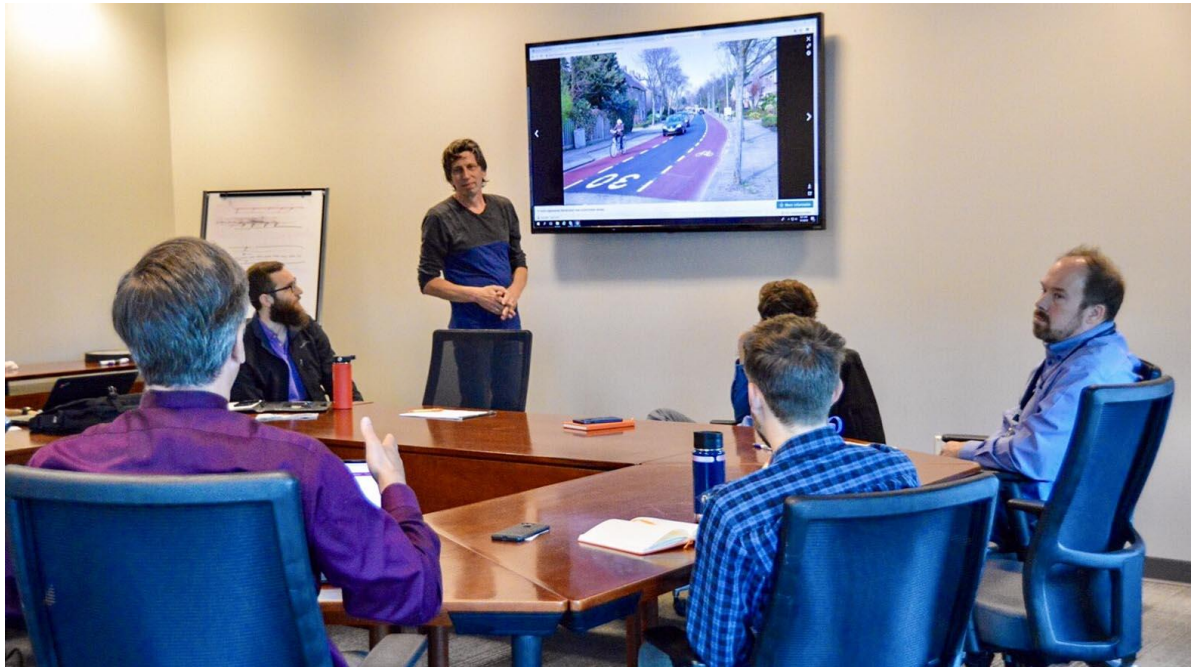
Ministerie van Infrastructuur en Waterstaat
MOBYCON
MOBYSHARE
Movares consultants & engineers
move mobility smart moving cities
new urban mobility
nieuw verbeterd
GROENE METROPOOL REGIO ARNHEM NIJMEGEN
Ring Ring
Royal HaskoningDHV Enhancing Society Together
Panteia Research to Progress
POSSEHL
ProRail
Provincie Noord-Brabant
PROVINCIE UTRECHT
provincie Gelderland
SOIGNEUR ACTIVE MOBILITY
STREET STUFF!
STUDIO BEREIKBAAR
SUSTAINABLE SOLUTIONS
Swapfiets
THE DUTCH & THEIR BIKES
theurbanfuture
TILER
triple Joy
TU Delft
vconsyst
VeloPA LET'S GO OUTSIDE
WHEELYLIFT
WILLEX
hogeschool Windesheim Dichter bij jou
wobs WARM ON BIKES
Zwolle



Social icon

Rounded square

Only use blue and/or white.

For more details check out our Brand Guidelines.

Non-Mo rkshop

Breakout Room

- Thomas Stra
- Ruben Loend

Breakout Room

- Adrian Puent
- Sjors van Du

Breakout Room

- Deodaat Boe
- Robin Kleine, Mobycon

@Cycling_Embassy

@dutchcyclingembassy

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Dutch Cycling Embassy

Netherlands

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@NLinMiami

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DUTCH CYCLING EMBASSY

Dutch Cycling Embassy

Nicolaas Beetsstraat 2A

3511 HE Utrecht

The Netherlands

www.dutchcycling.nl

info@dutchcycling.nl

+31 (0) 15 202 6116

Netherlands

@NLinMiami

@NLinMiami

cling_Embassy

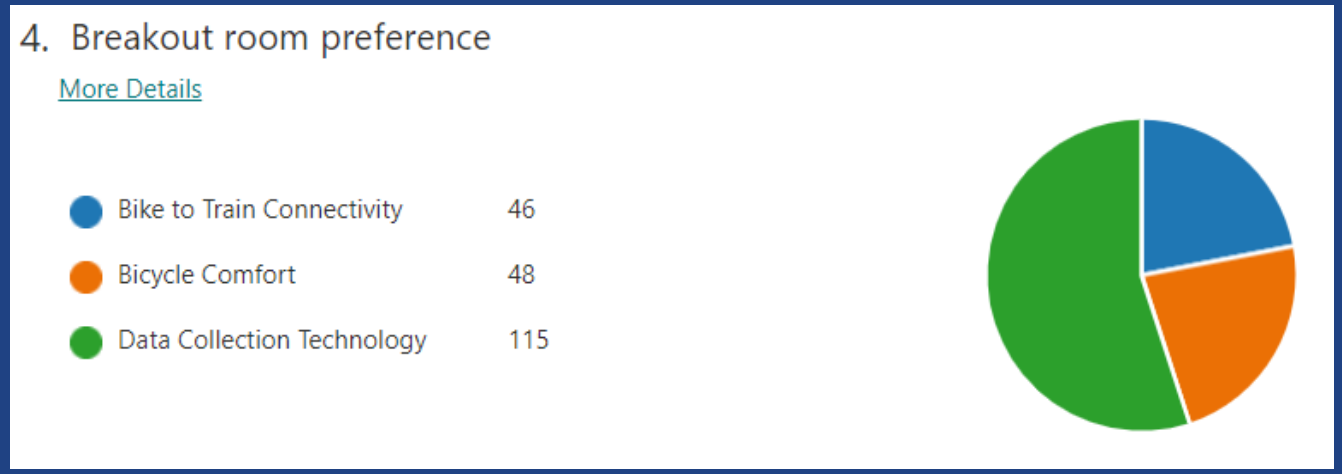
@dutchcyclingembassy

@Cycling_Embassy

Dutch Cycling Embassy

BREAKOUT ROOMS

- 212 Registrations!
- Email eric.katz@dot.state.fl.us if you encounter any issues connecting
- We will regroup at 11:50am(EST)



Goudappel

MOBILITY MOVES US

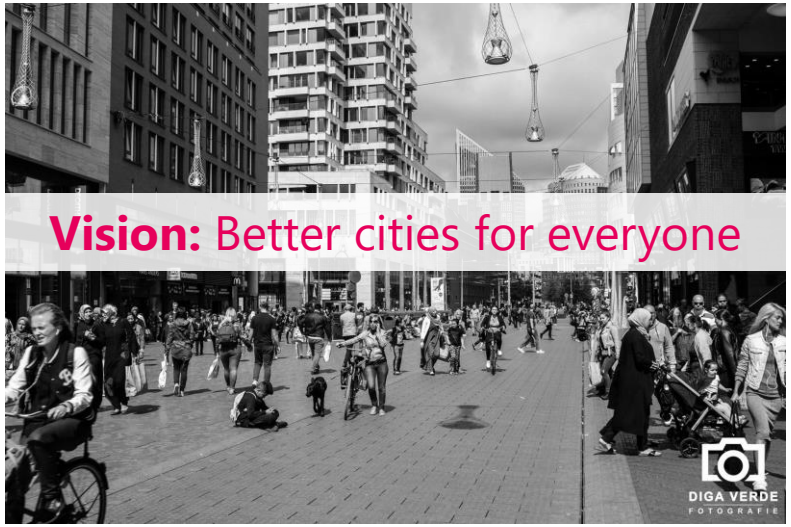
Bike & train
the perfect couple

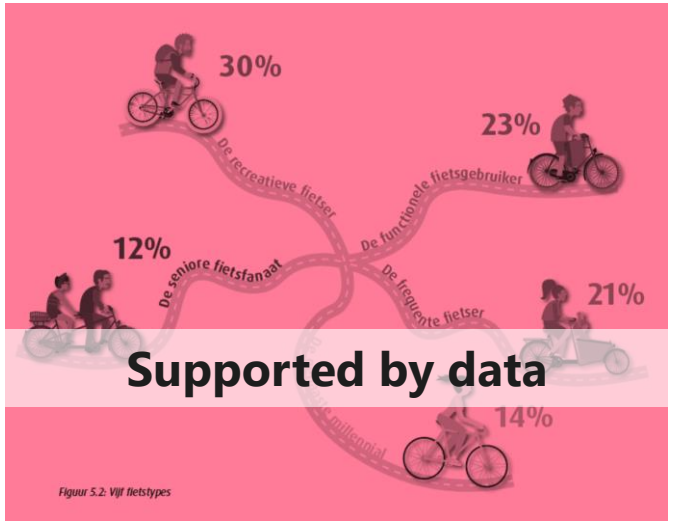
Thomas Straatemeier

tstraatemeier@goudappel.nl

https://www.goudappel.eu/

Please to meet you!





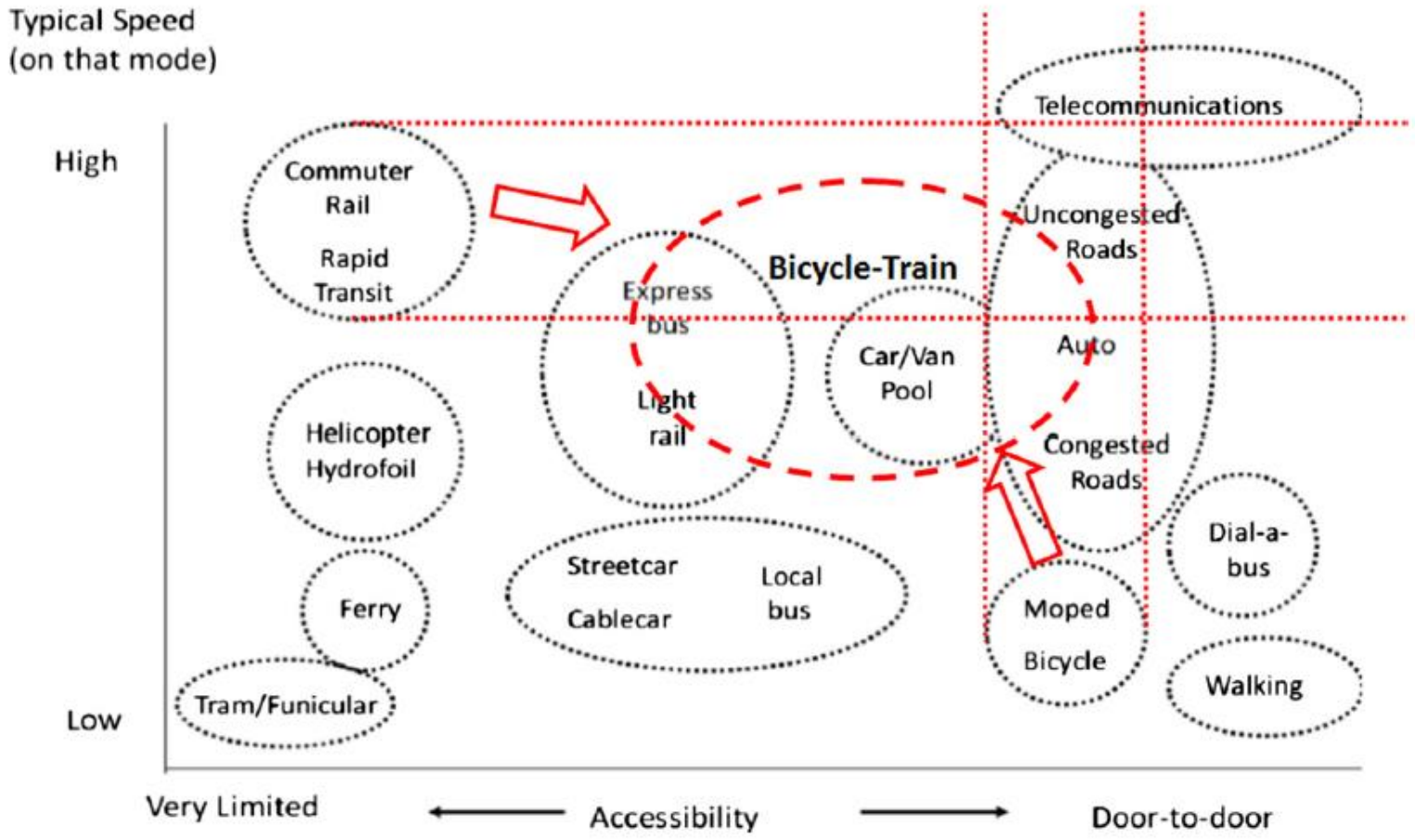
- 55 years of experience
- Over 250 mobility-experts: design, data, modelling, planning
- At the core of Dutch transport planning innovations

- We work for all the major cities and regions in the Netherlands
- Fast growing international portfolio, including several US cities (Fort Collins, Austin, Wilmington, Minneapolis, Houston, Washington D.C.)

Outline

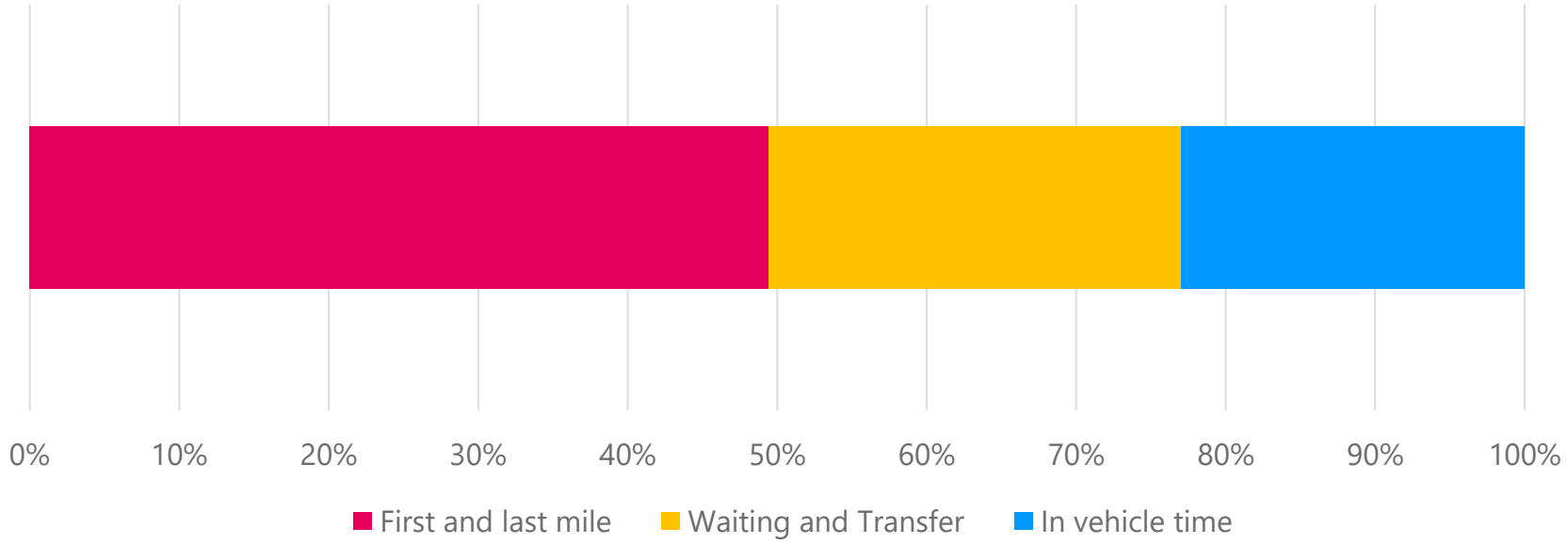
- Theory
- Network design
- Station area design

Best of both worlds

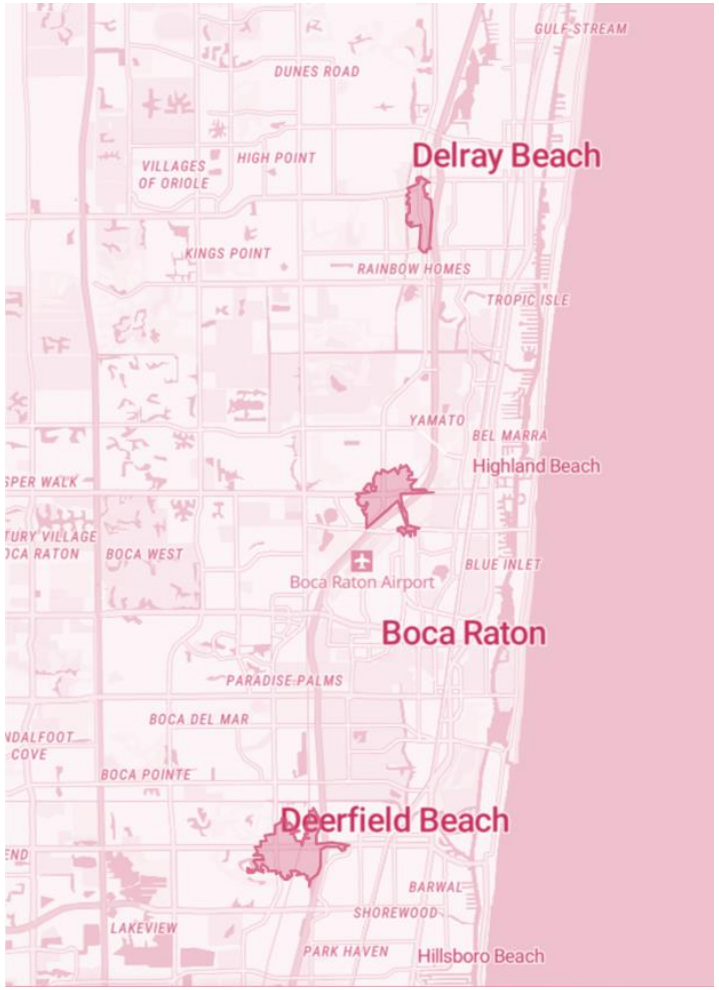


Source: Kager 2016 adapted from Meyer and Miller

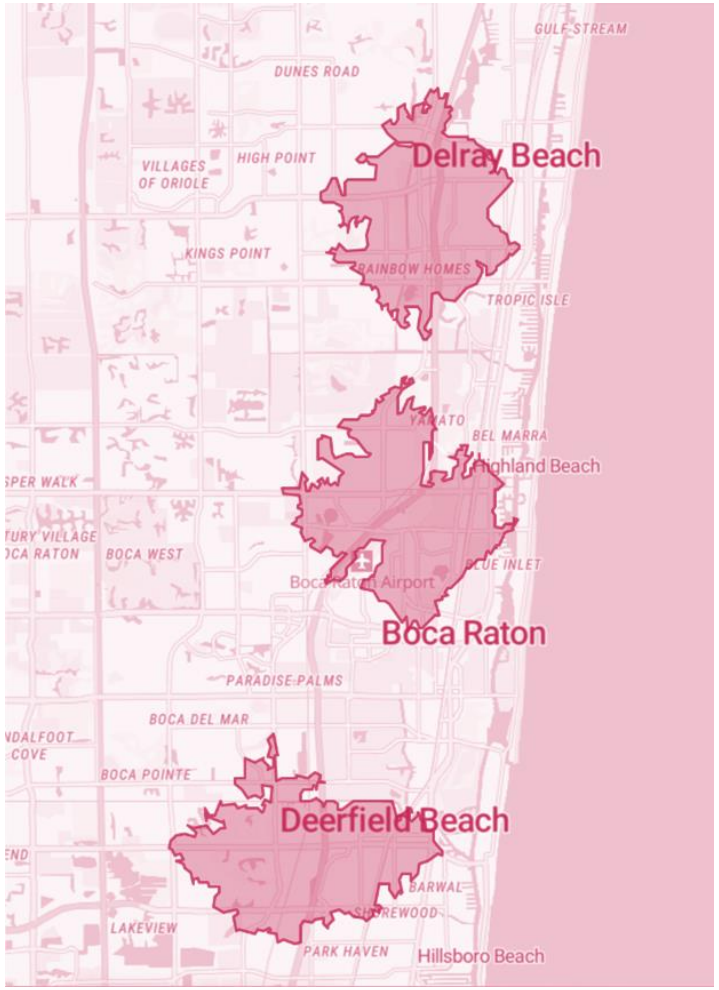
Improving transit is not only about running trains



Plan transit and bike as one system

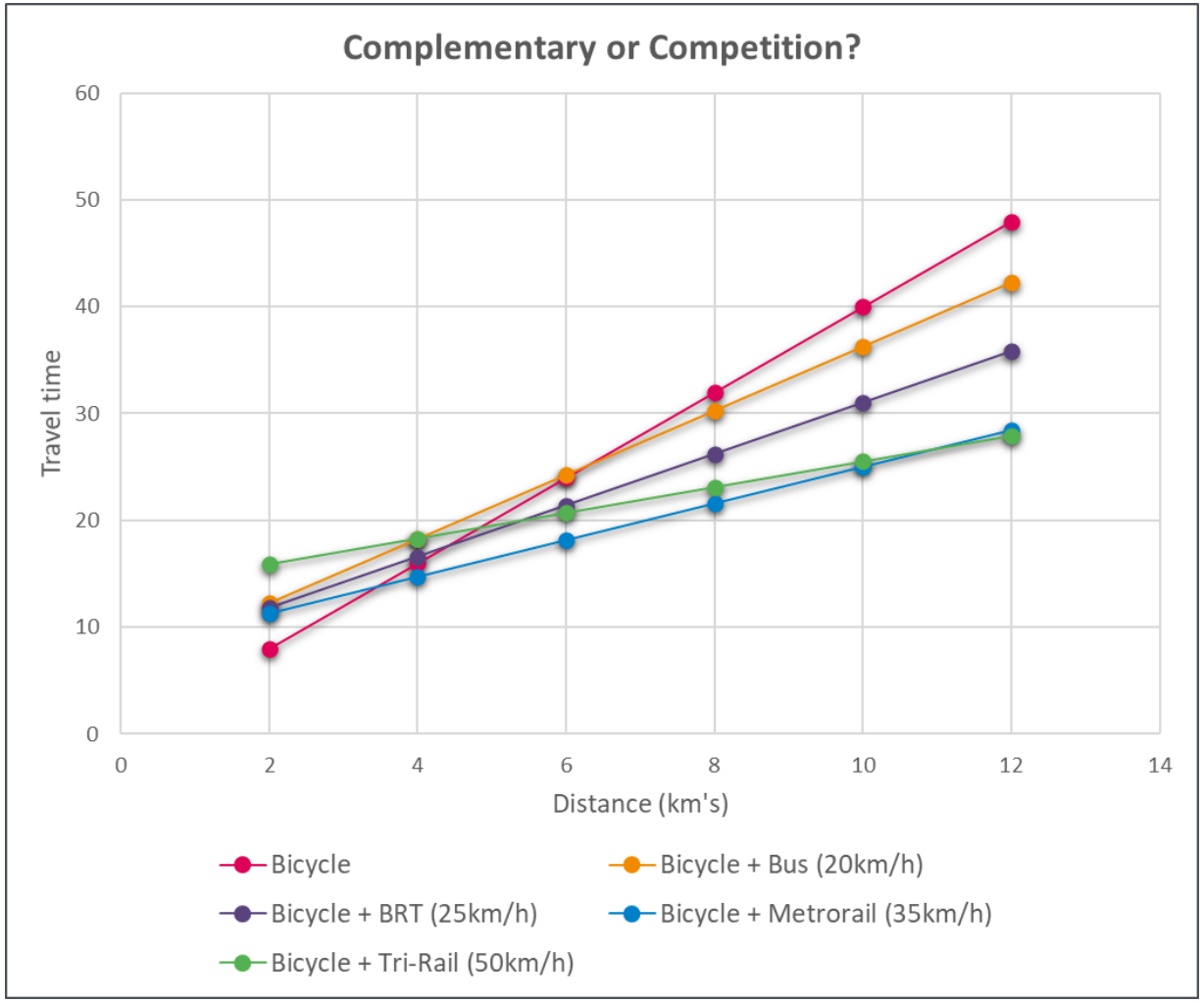


Transit + 10 min. walking



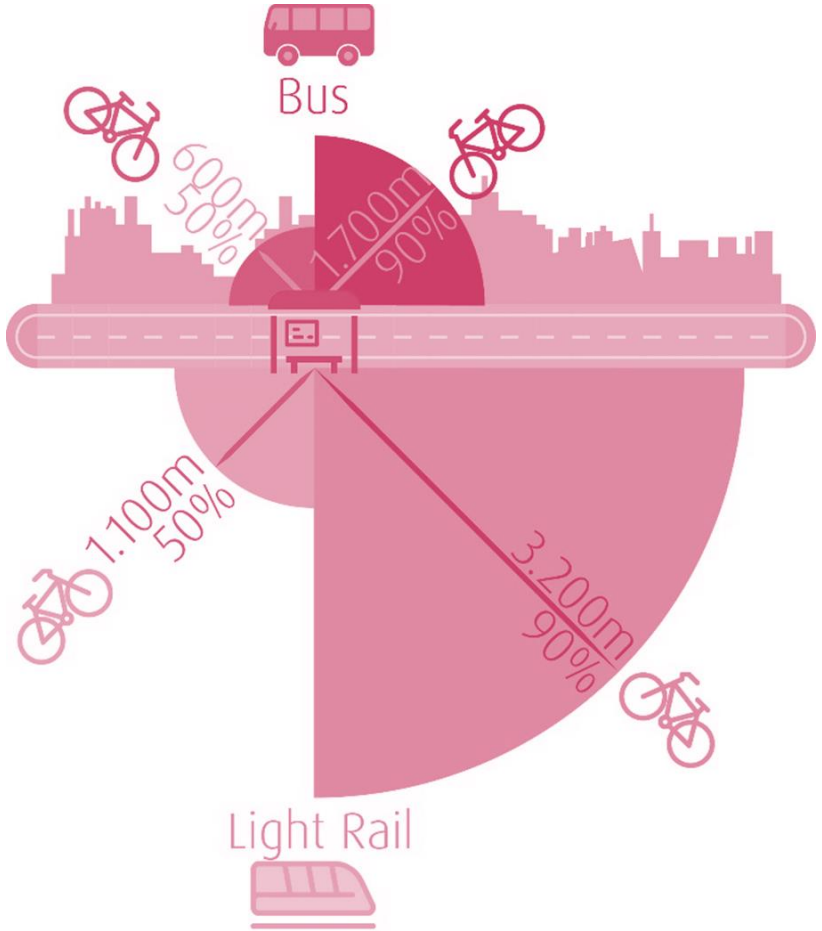
Transit + 10 min. cycling

Bicycle works better with higher order transit

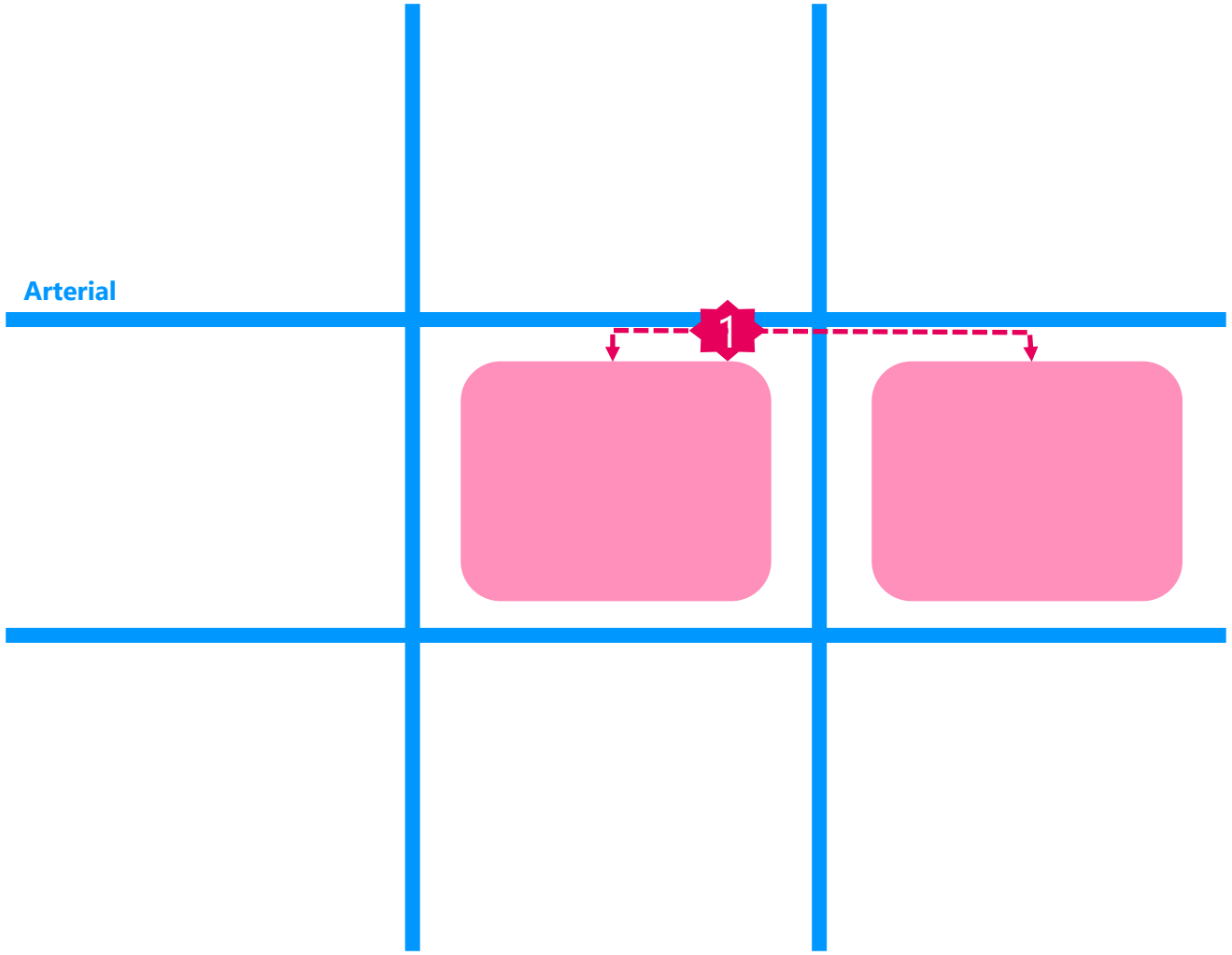


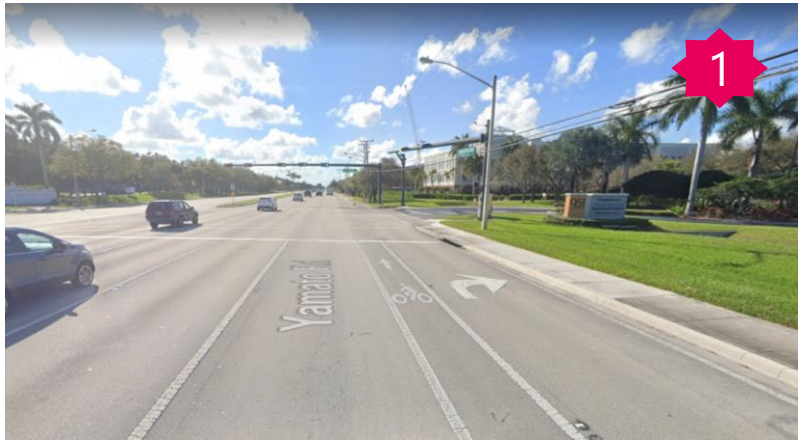
- Cycling works best with rail and possibly BRT
- Increase stop spacing bus
  - Makes it more attractive to bike to the bus
  - Increases speed and cost-effectiveness of transit -> higher ridership
  - Paratransit to supplement

Catch me if you can



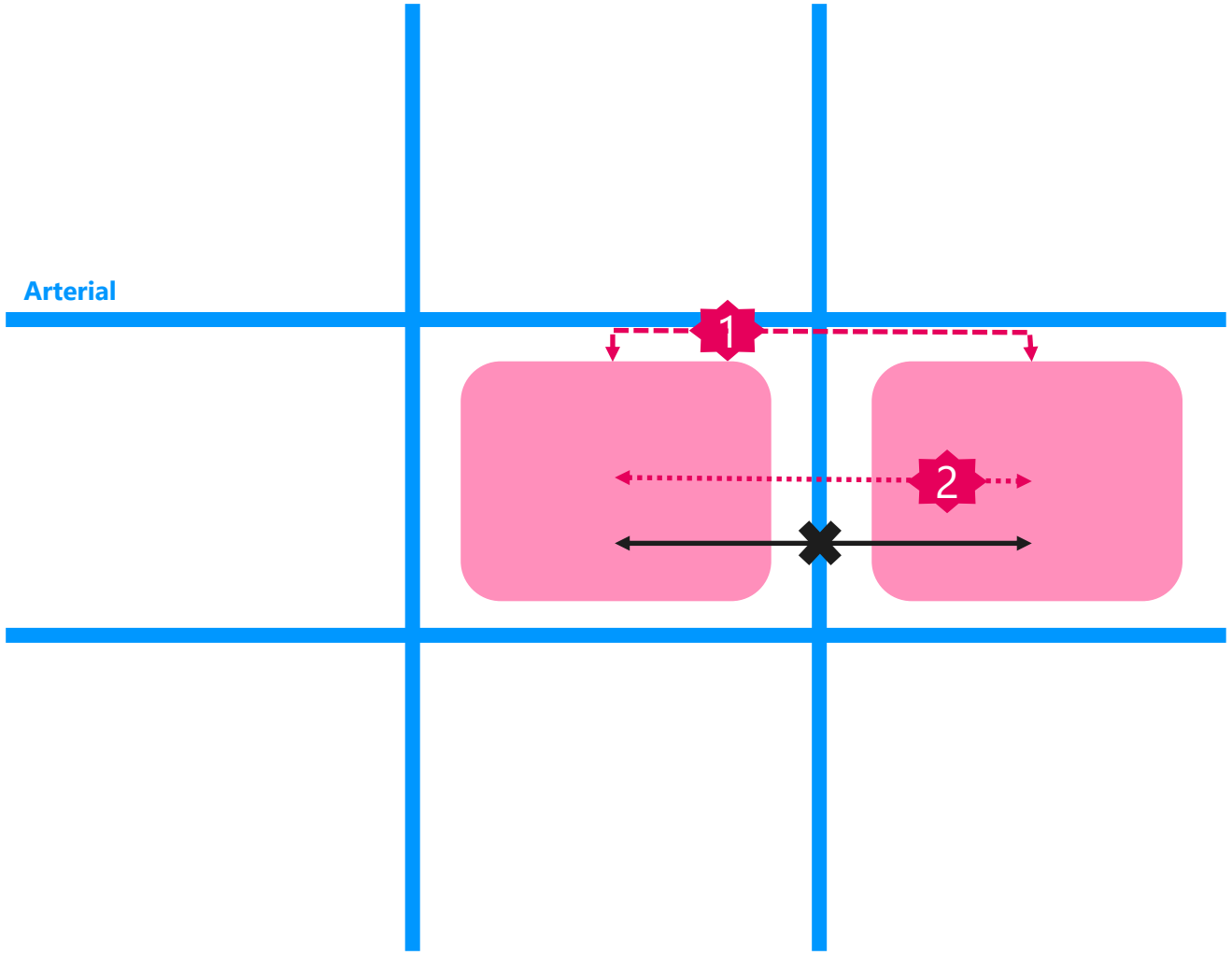
Network strategy



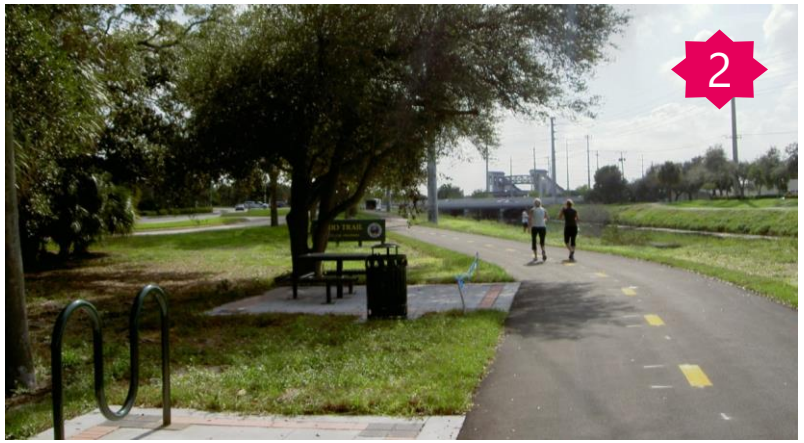


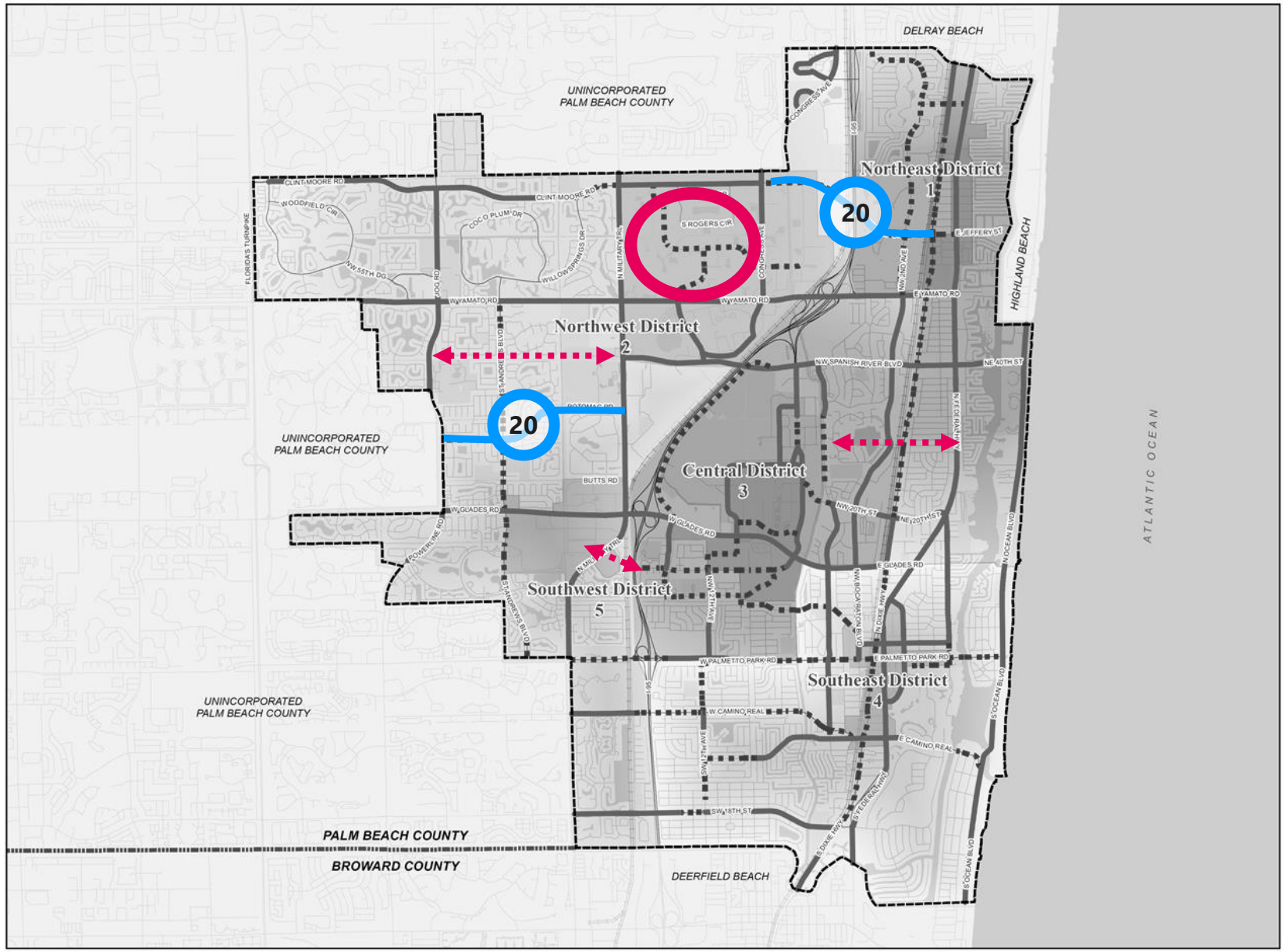
- Arterials are often the fastest also for cyclists
- But not very attractive and safe to cycle

Network strategy



- Create new connections for cycling only within the grid
- Green corridors and quiet residential streets
- No local roads for cars between neighborhoods -> give cycling a competitive advantage





CITY OF BOCA RATON
DEVELOPMENT SERVICES

2020 COMPREHENSIVE PLAN

LEGEND

PLANNING AREAS

- Central District
- Northeast District
- Northwest District
- Southeast District
- Southwest District
- City Limits

BICYCLE NETWORK

- Existing Bicycle Lanes
- Proposed Bicycle Lanes

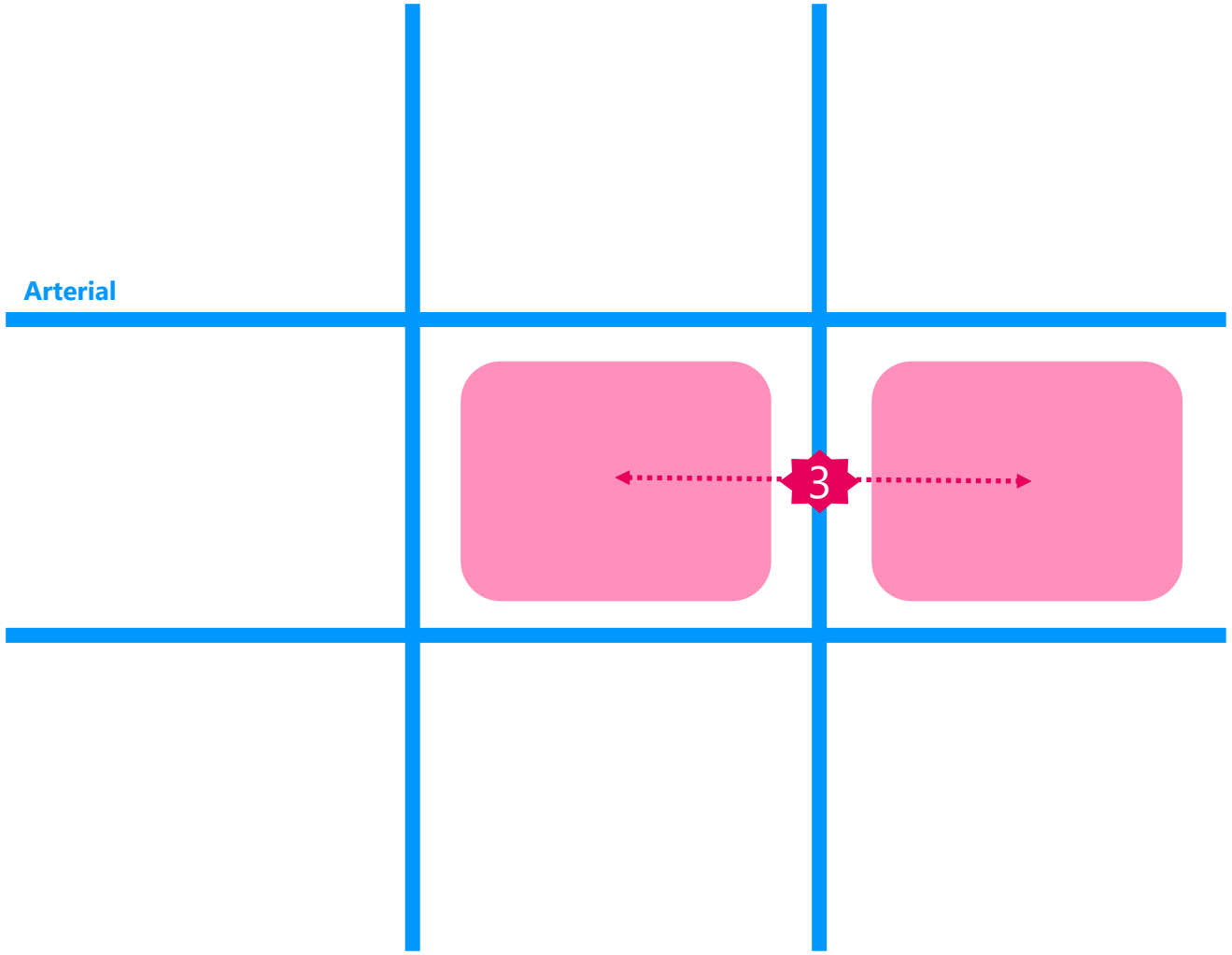
N

0 0.25 0.5 1 Mile
Graphic Scale

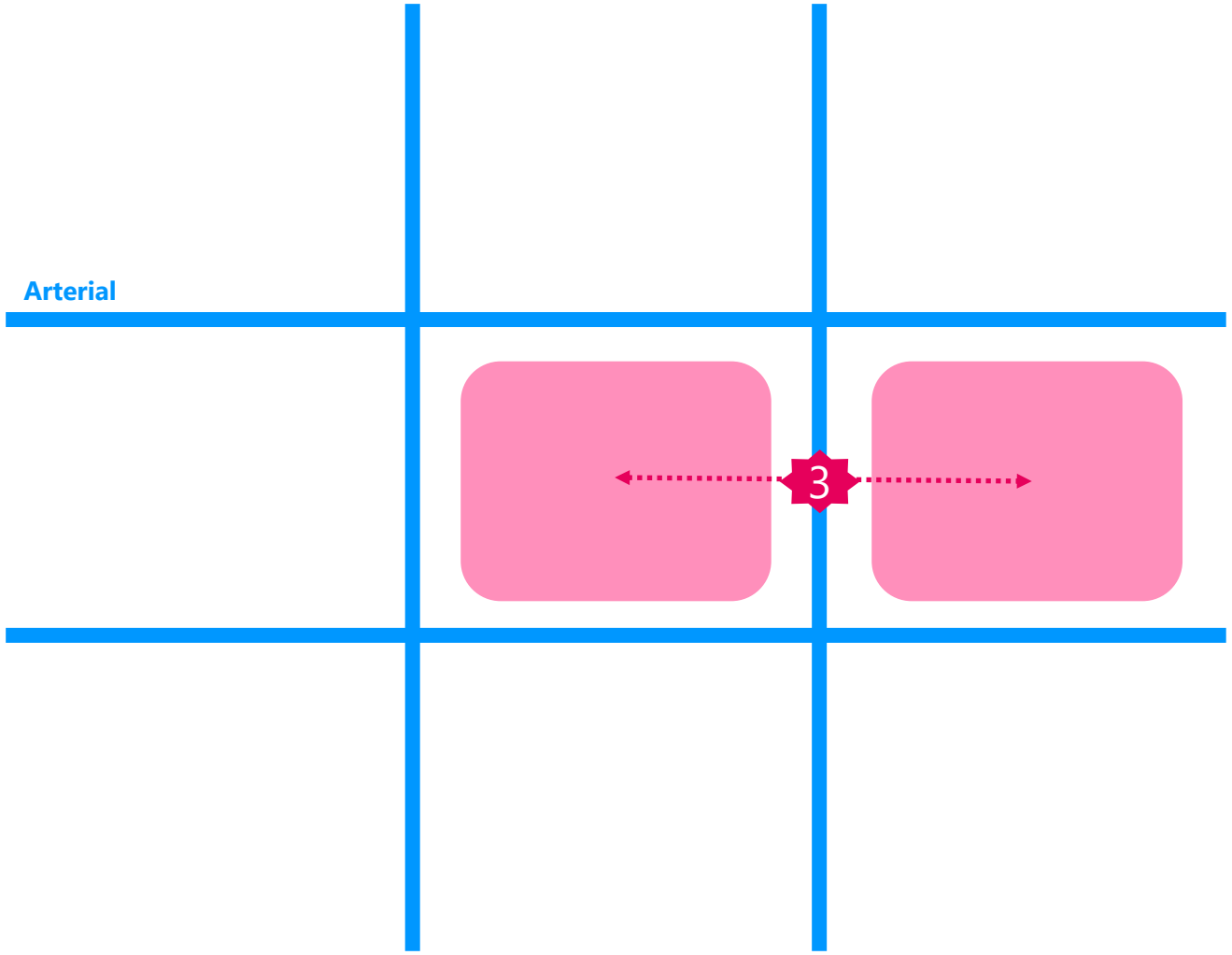
Map: Bicycle Network
Revised Date: November 22, 2019
Data Source: Development Services
Page 15

BICYCLE NETWORK

Network strategy - 2



Network strategy - 3

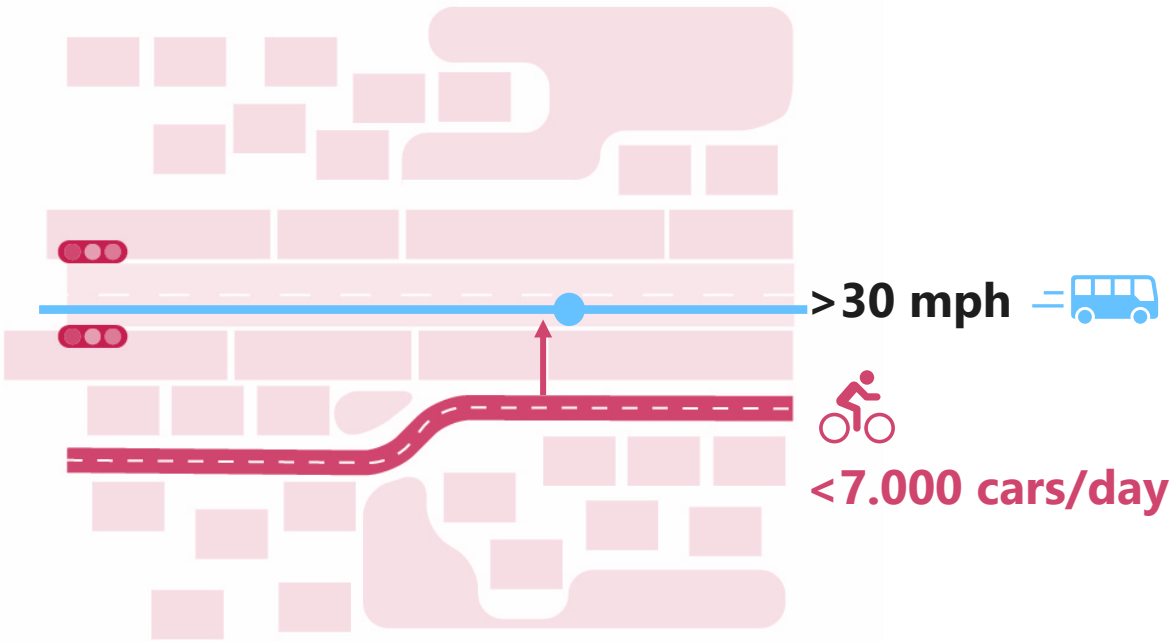


Movemeter:
Impact cycling policy on car network

Volume to Capacity Ratio Improvements

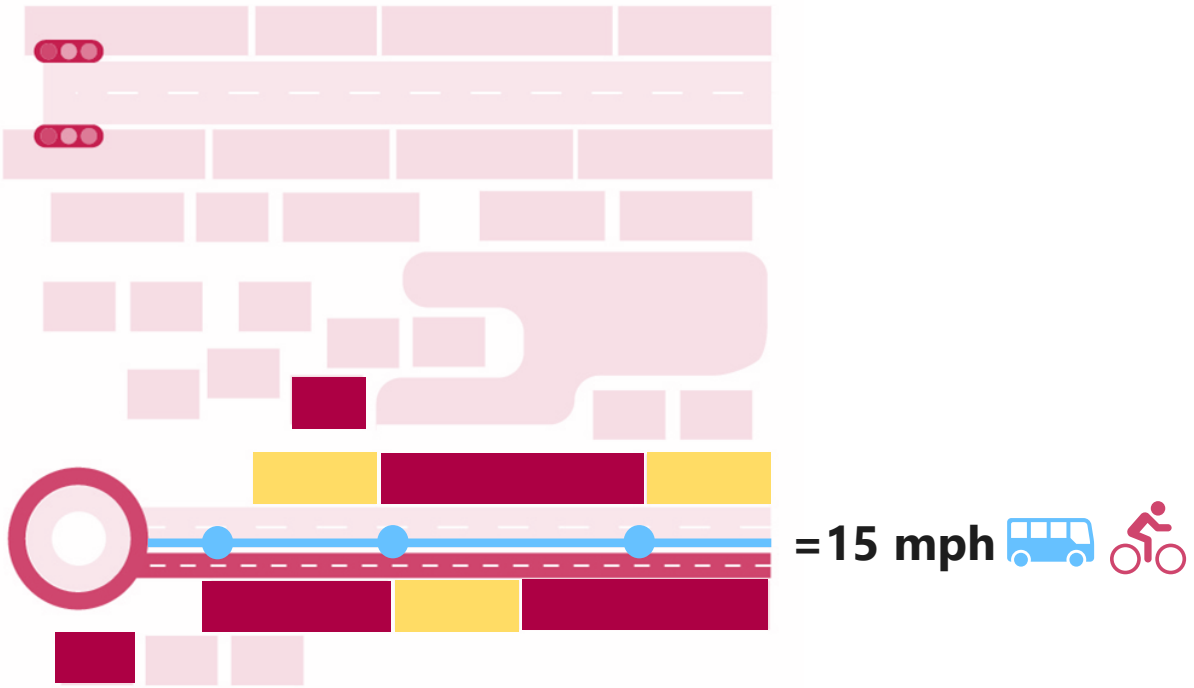
Before and After 15% of Short Trip Capture by implement bike network

Next to main road or not?



Separate

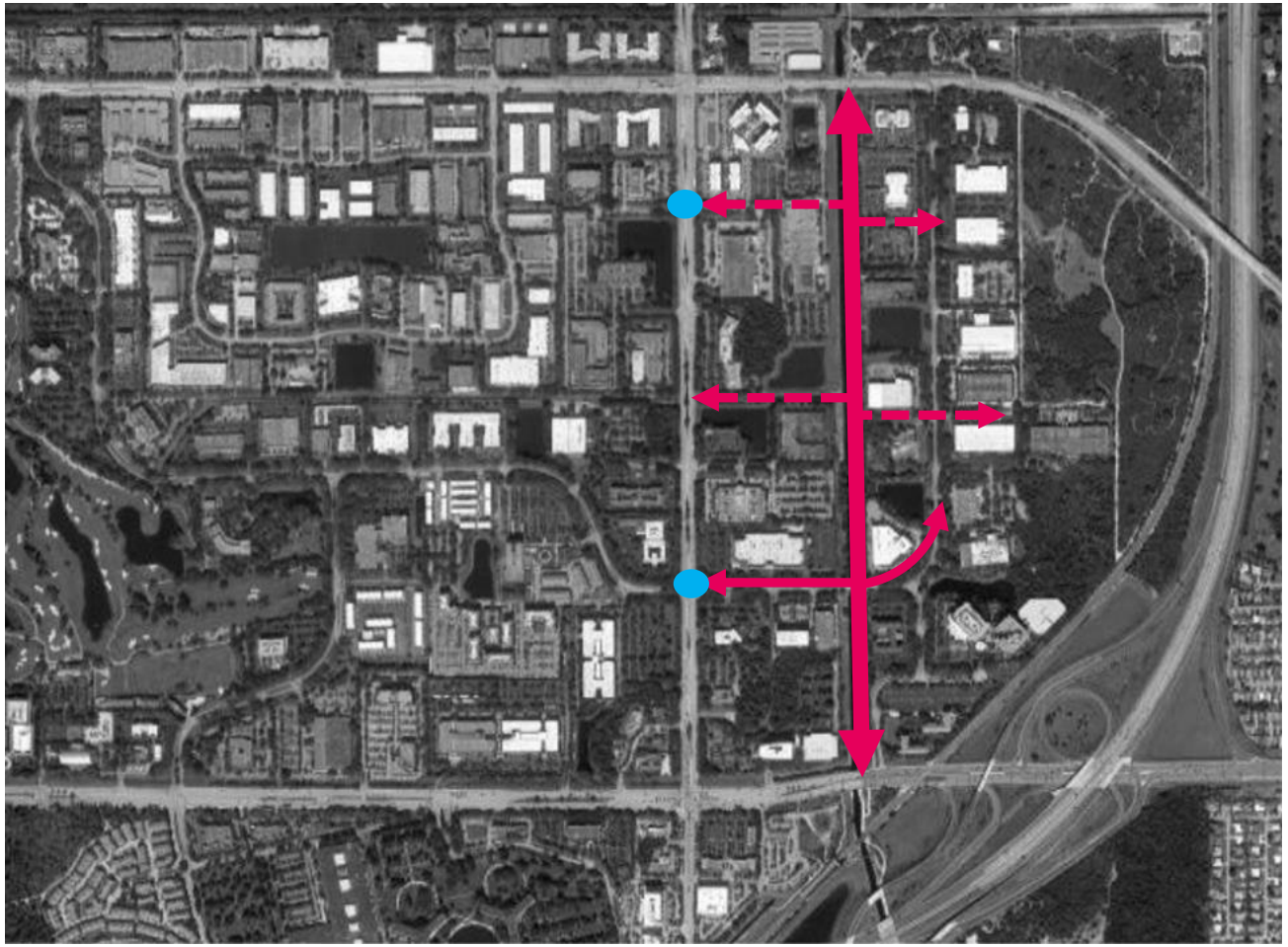
Trail / Bicycle boulevard



Integrate

Bike lanes / shared space

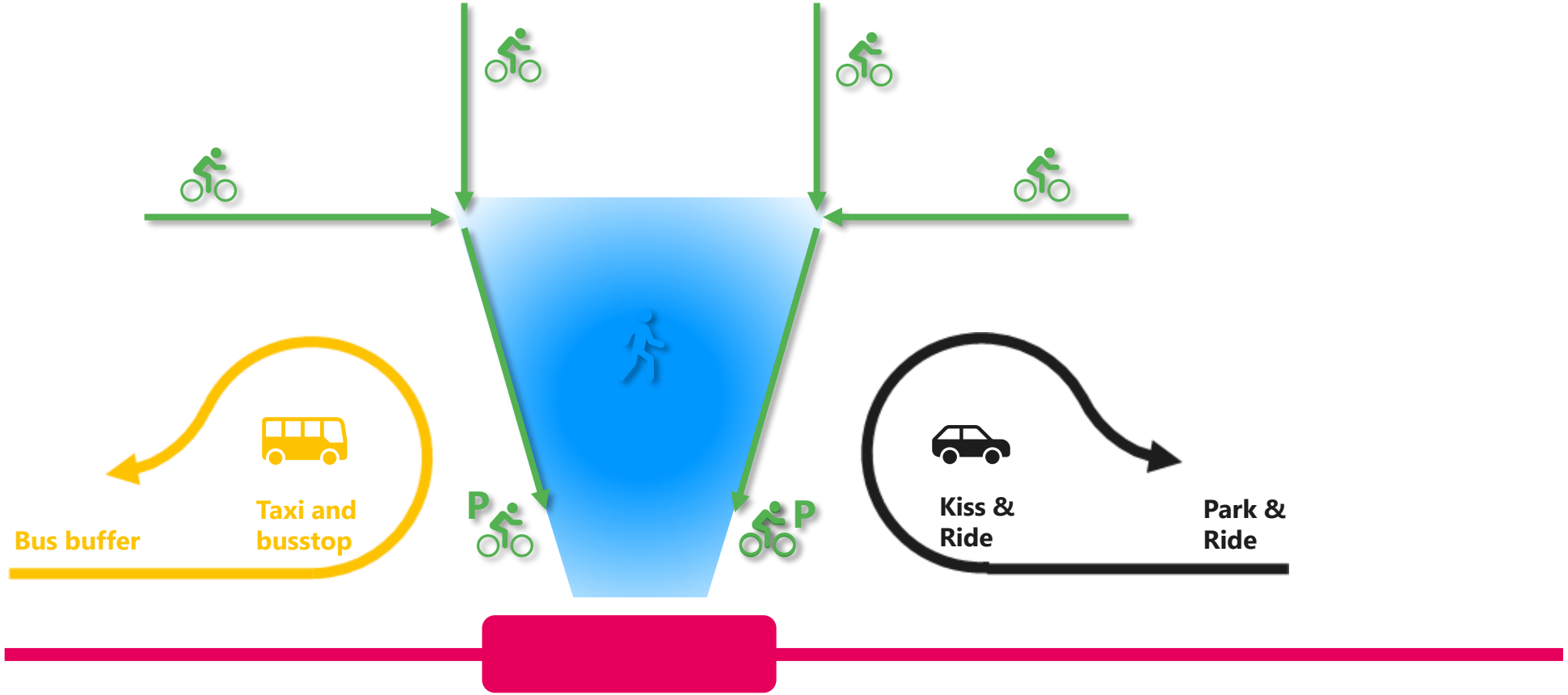
Trails need feeders



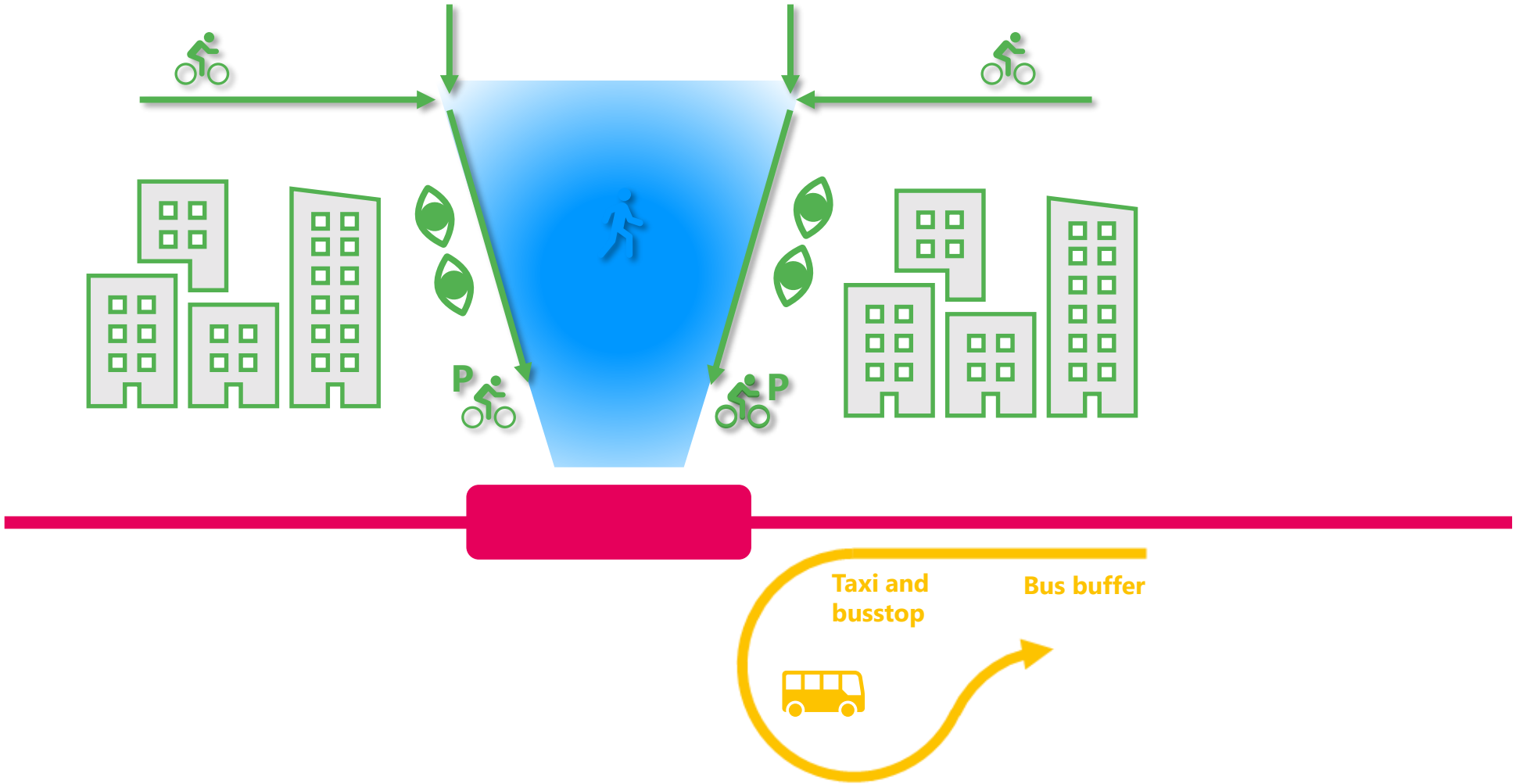
- Small investments with big impact
- Feeders every $^{1}/_{4}$-$^{1}/_{3}$ mile
- Combine feeder with bike parking
- BID or Communities can apply for funding
- Travel demand management, with businesses

Small interventions, big difference

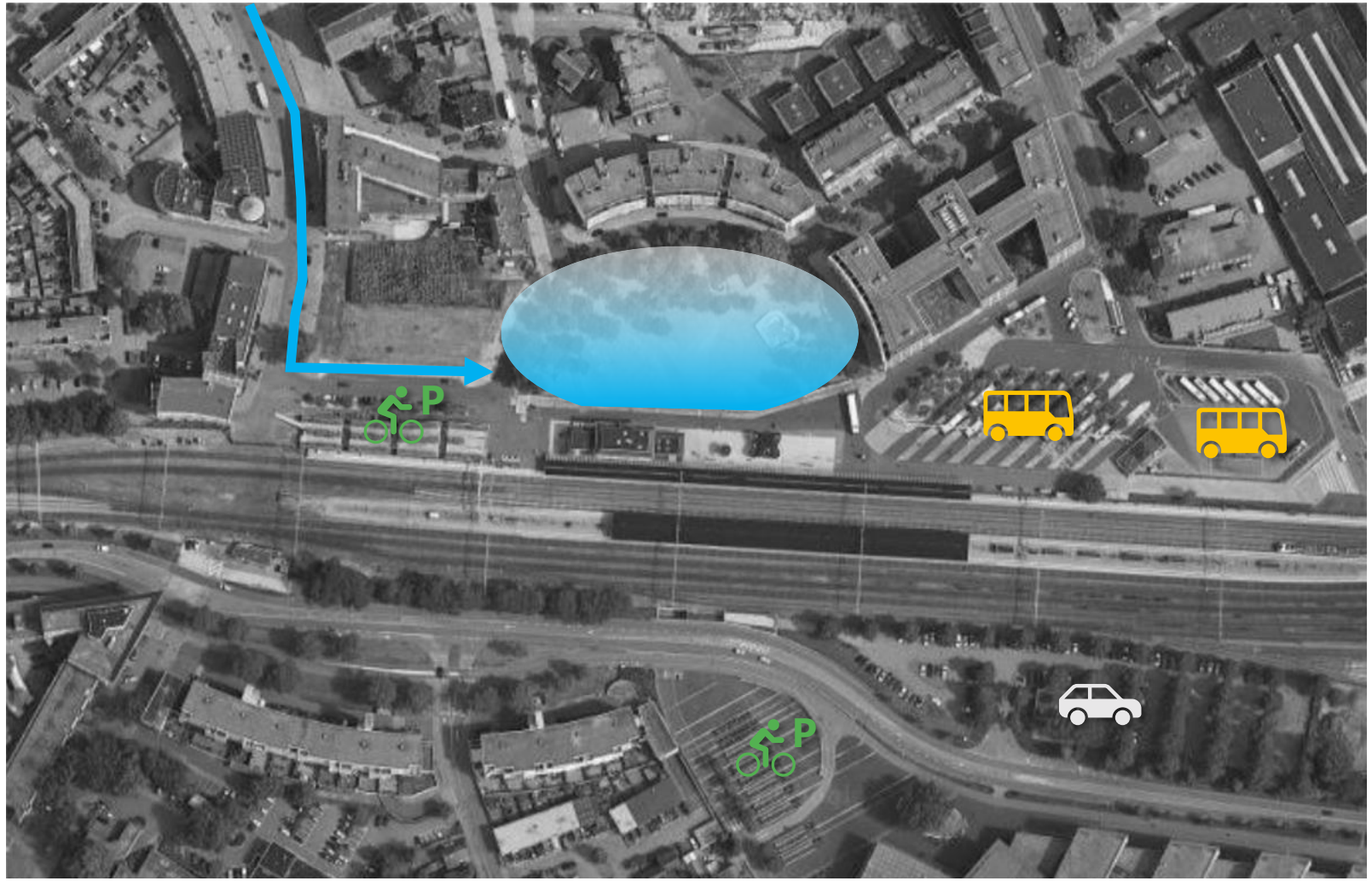
Station design: Active modes first



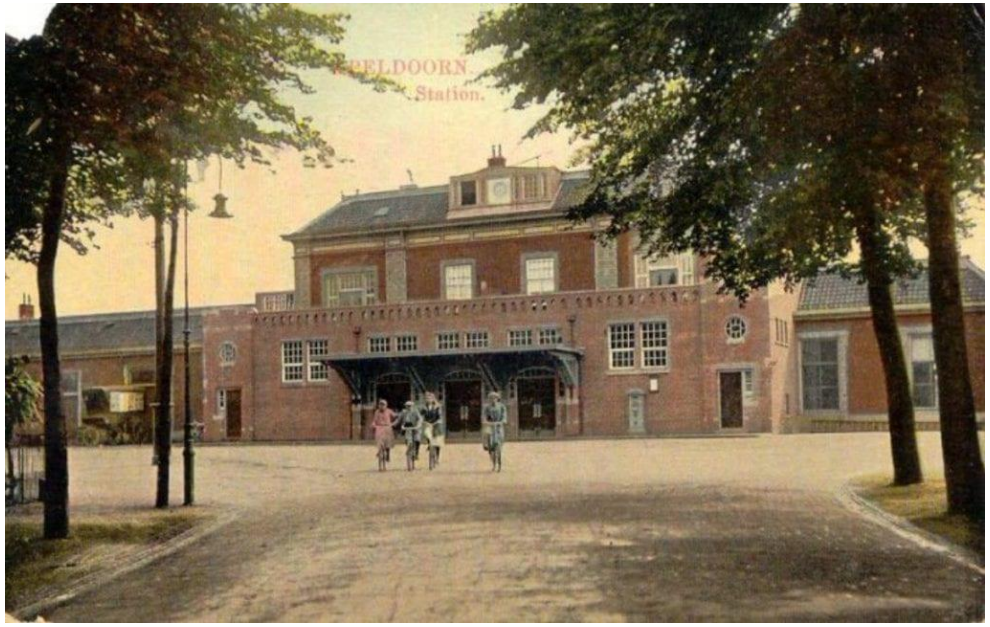
Station design: Density before transfer



Station Apeldoorn: front and back



Station Apeldoorn: plan and learn

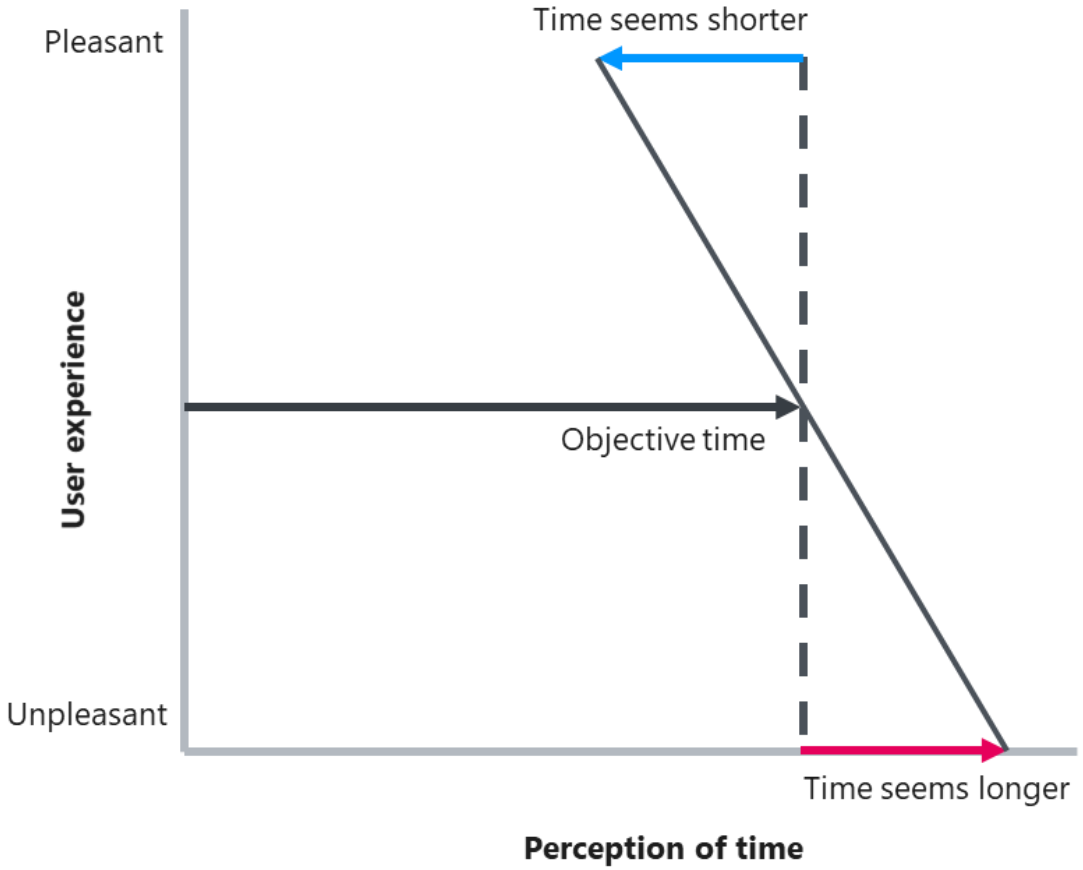


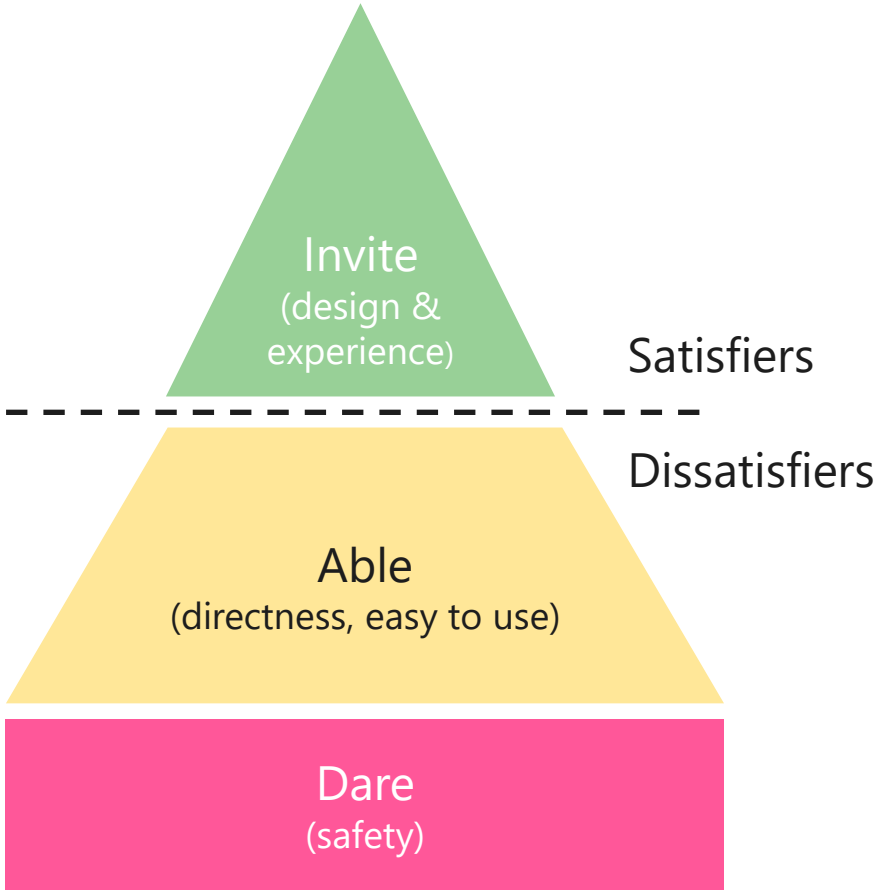
1912

2004

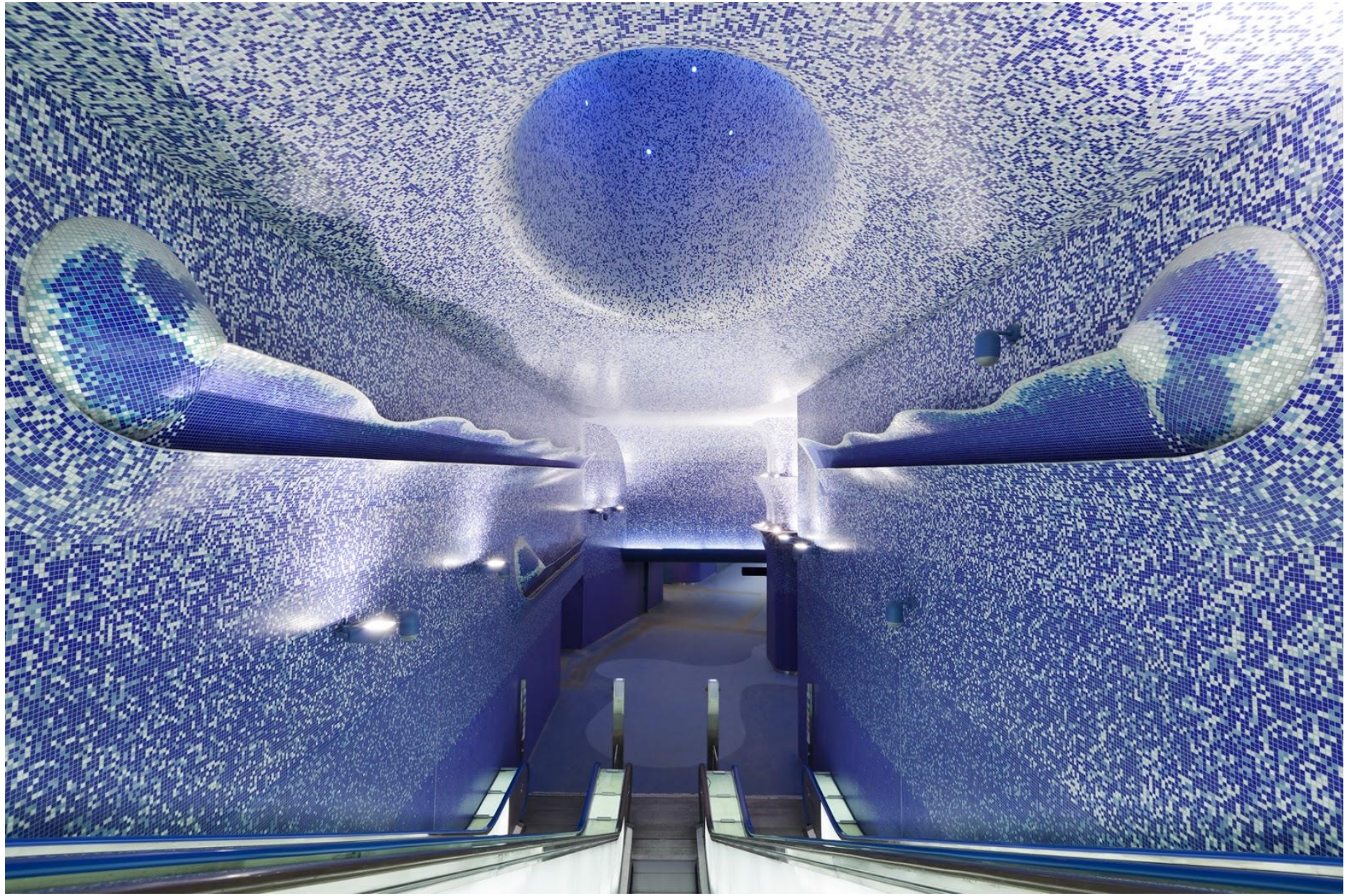
2020

User experience is key



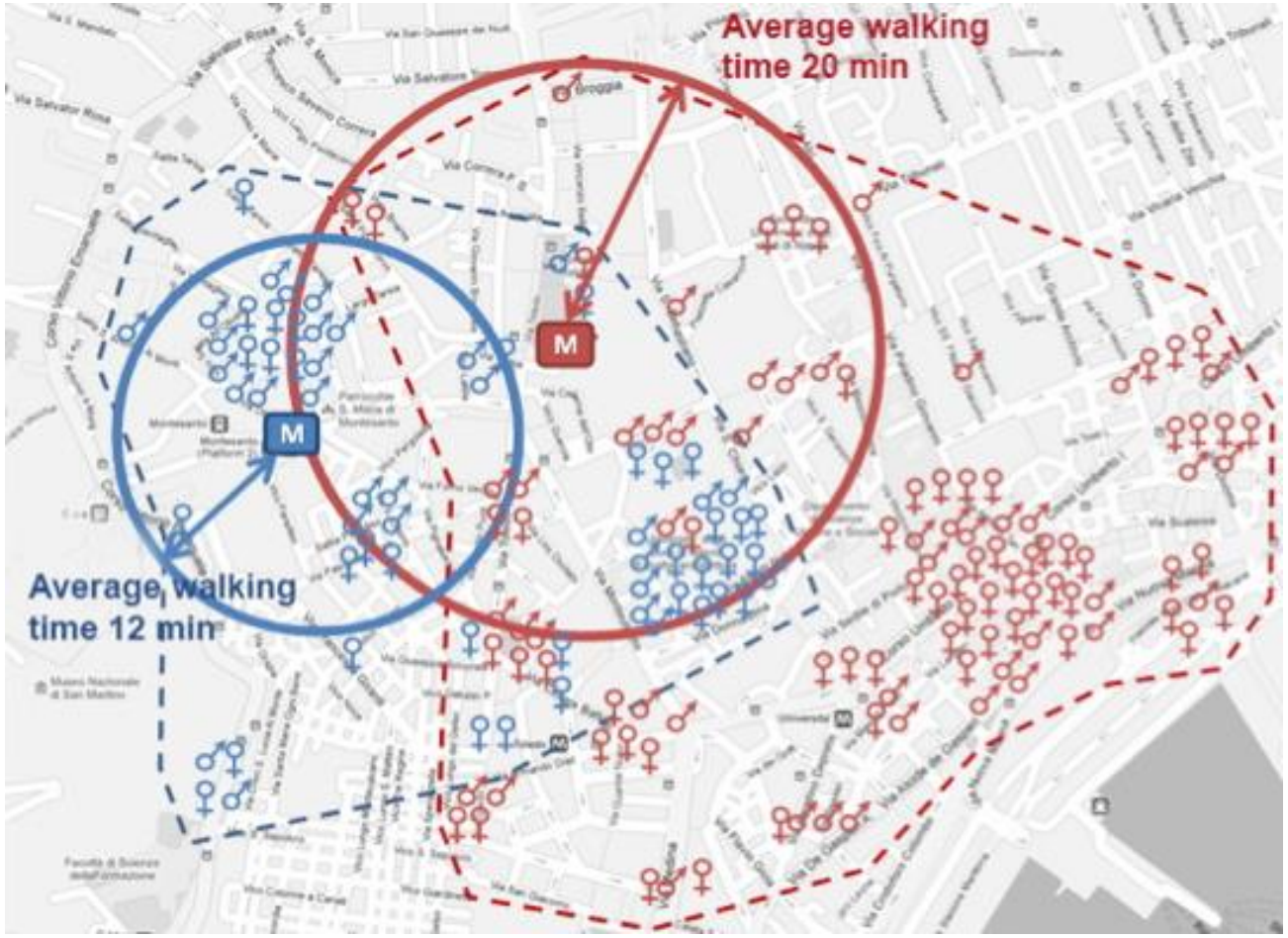


The case of Naples



Source: Cascetta

Design almost doubles your catchment



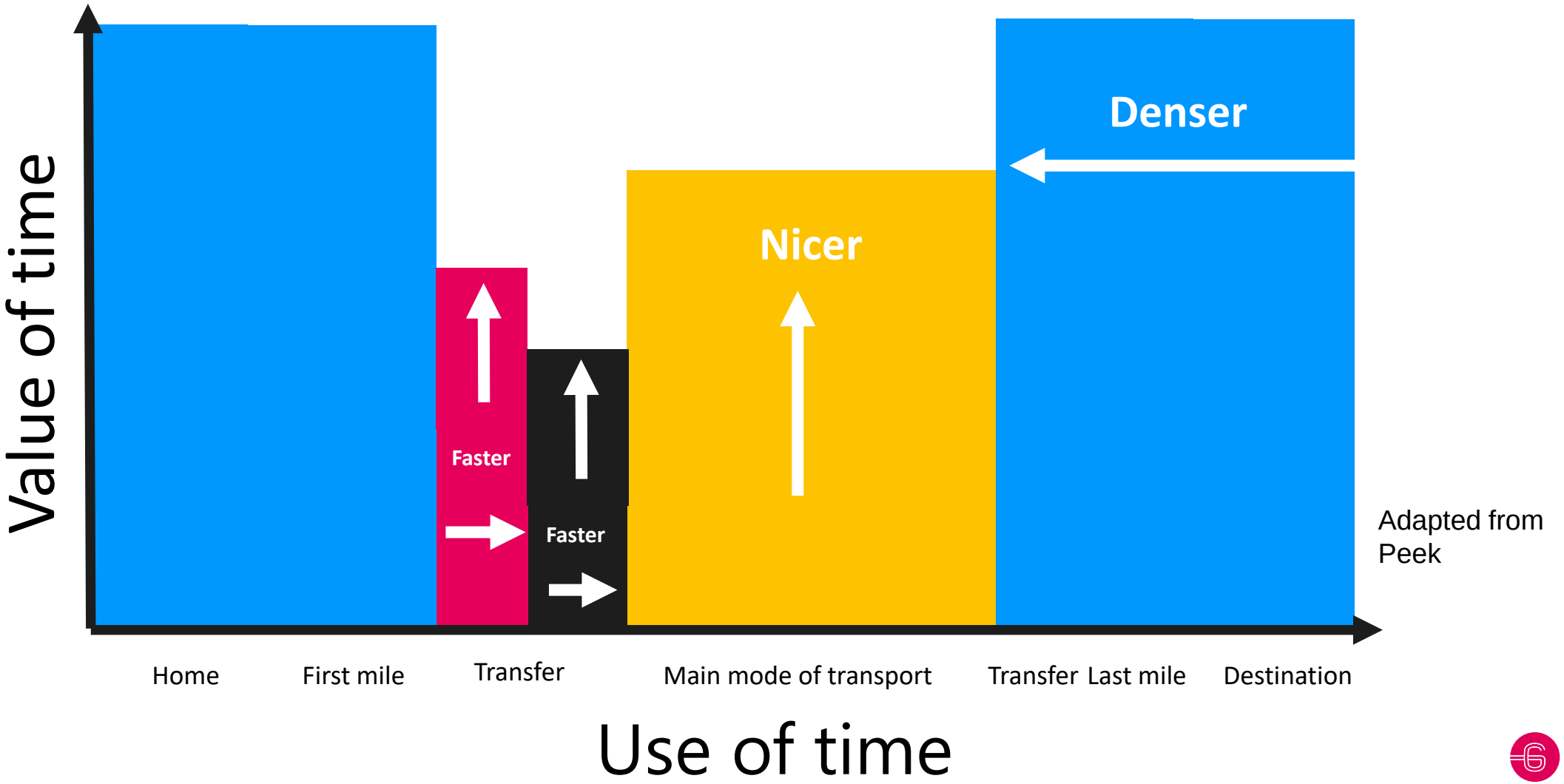
Source: Cascetta

Station Zevenaar: Reception area

- Clear the area
- Organize functions
- Visual marker
- Place to rest

Service & bike share & wayfinding

A transit trip from home?



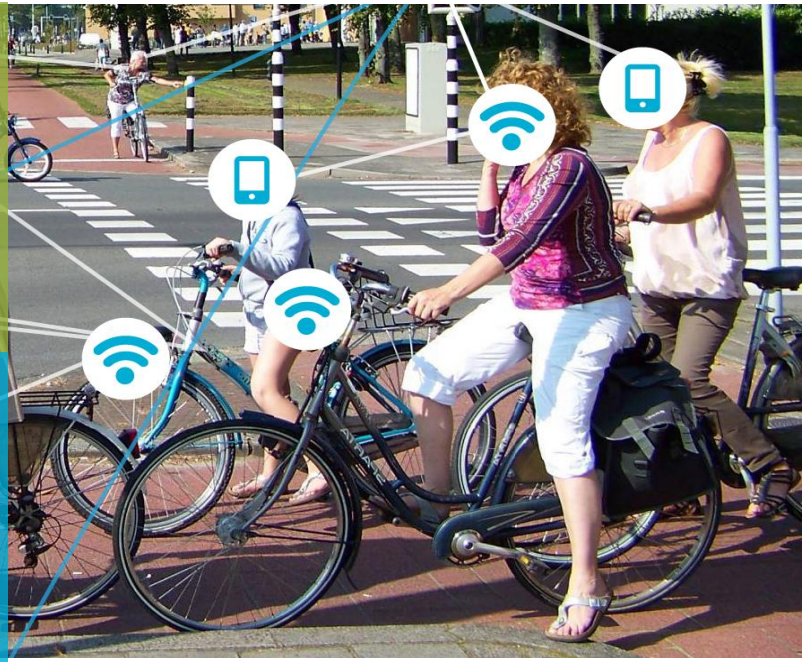
Adapted from Peek

MOBYCON

PLAN • DESIGN • LEARN

Cycling data

Examples from NL and EU



Webinar, January 27th 2022

Robin Kleine - Mobycon

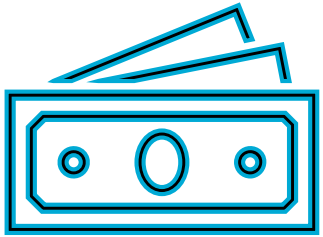
Deodaat Boer - Cycle Data

cycledata®

WHY CYCLING DATA

BEING VISIBLE IN A DIGITAL WORLD

- Volume of data is increasing (*50 since 2010)
- Same goes for mobility data
  - Models and analyses → policies and investments
  - Traffic management systems → priority
  - Products and services (e.g. travel planners) → behavior

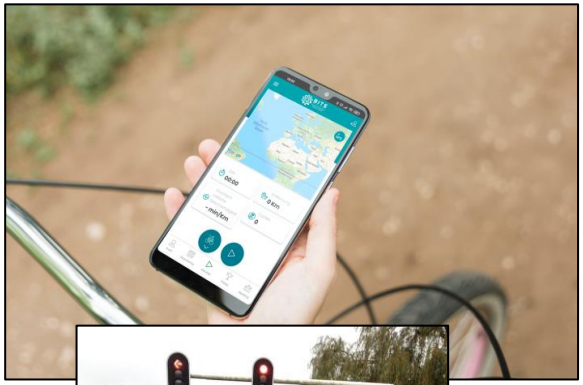


CYCLING DATA IS LACKING

OPPORTUNITIES

Infra

Cyclist

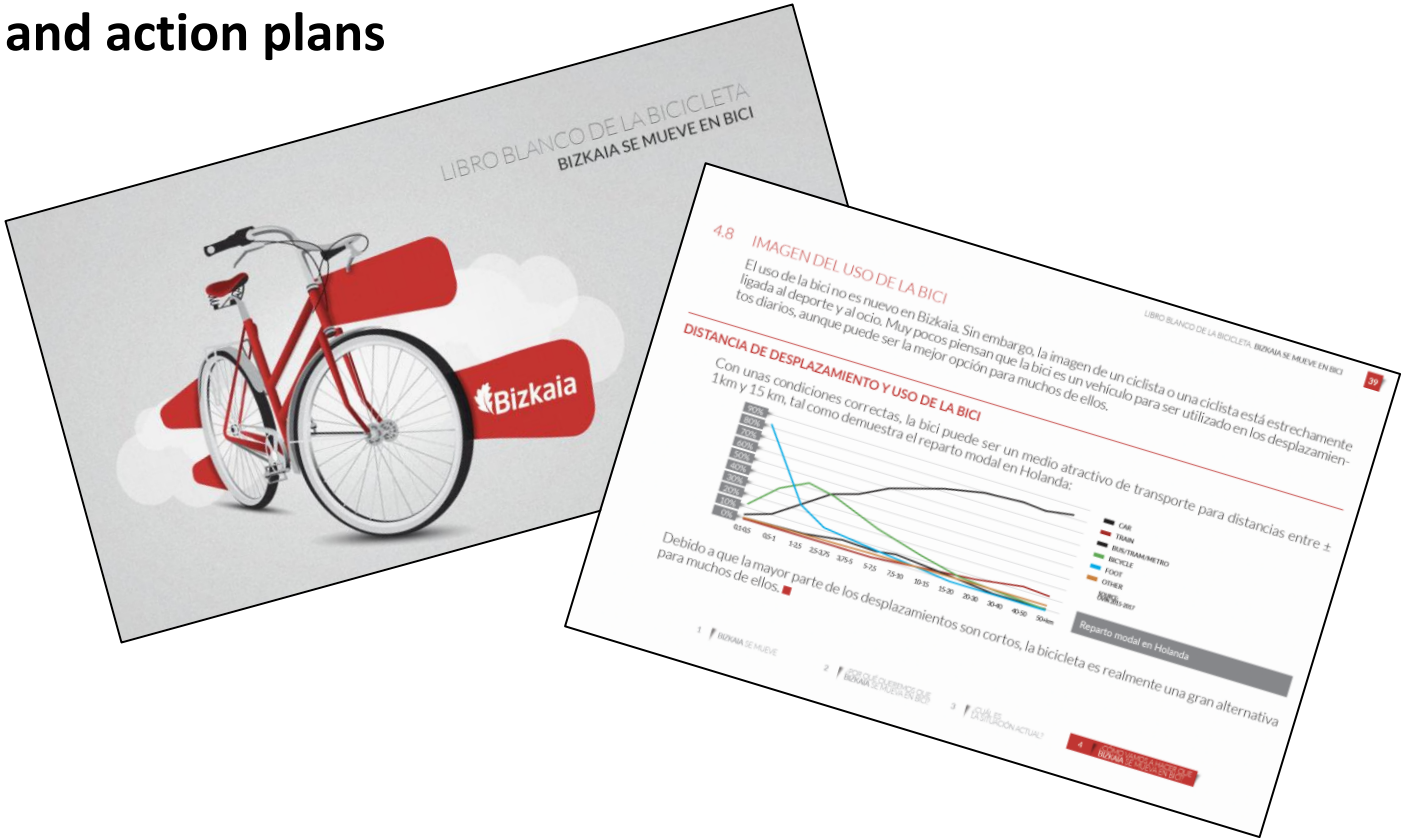


Bike

WHAT WE DO WITH CYCLING DATA

WHAT WE DO WITH CYCLING DATA

- **Cycling policy and action plans**

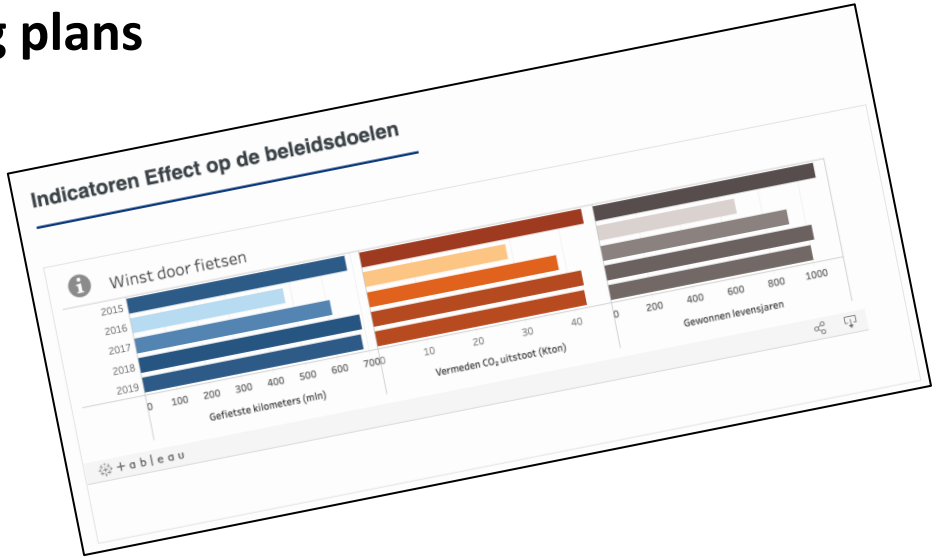


WHAT WE DO WITH CYCLING DATA

- Cycling policy and action plans
- **Cycling network development**

WHAT WE DO WITH CYCLING DATA

- Cycling policy and action plans
- Cycling network development
- **Develop and execute monitoring plans**

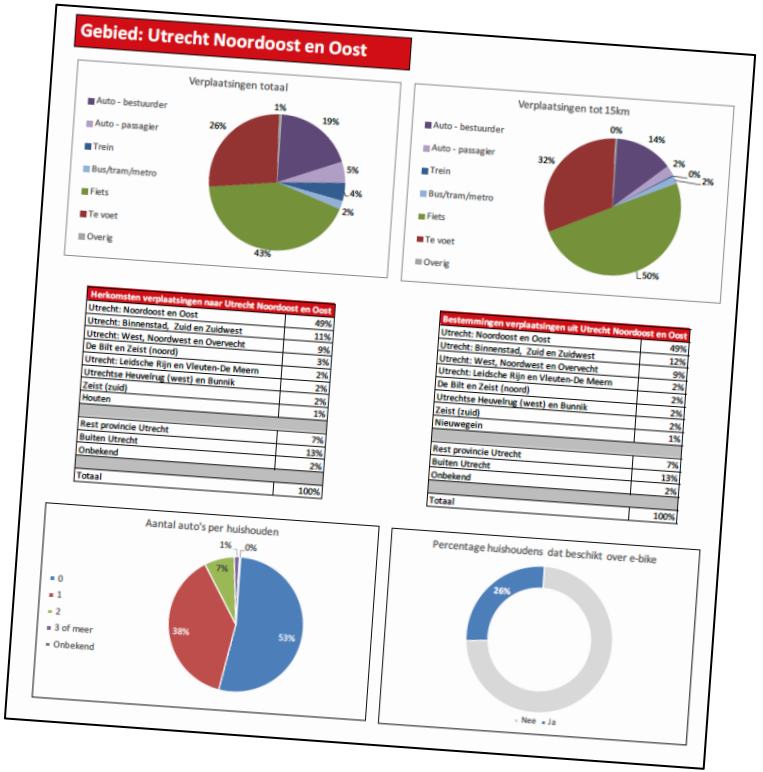


WHAT WE DO WITH CYCLING DATA

- Cycling policy and action plans
- Cycling network development
- Develop and execute monitoring plans
- **Road safety assessments**

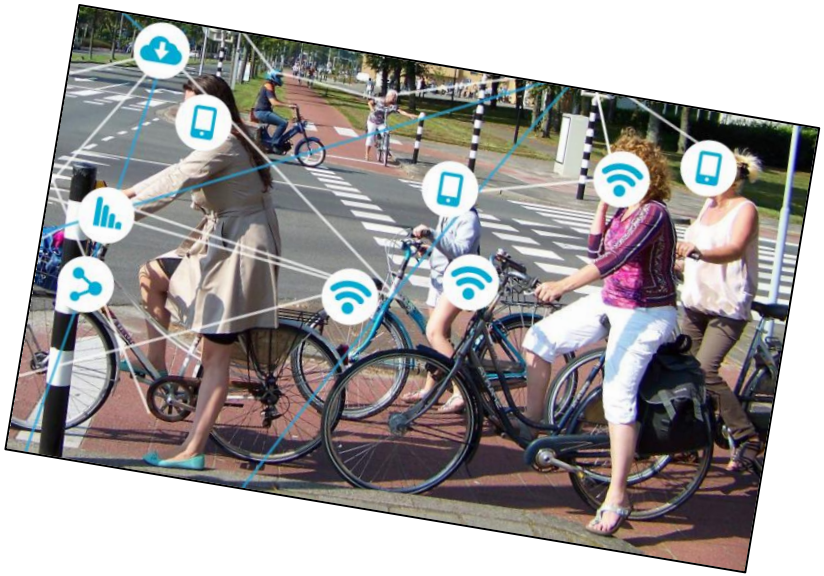
WHAT WE DO WITH CYCLING DATA

- Cycling policy and action plans
- Cycling network development
- Develop and execute monitoring plans
- Road safety assessments
- **Data visualisations and interpretations**



WHAT WE DO WITH CYCLING DATA

- Cycling policy and action plans
- Cycling network development
- Develop and execute monitoring plans
- Road safety assessments
- Data visualisations and interpretations
- **Digital products and services**

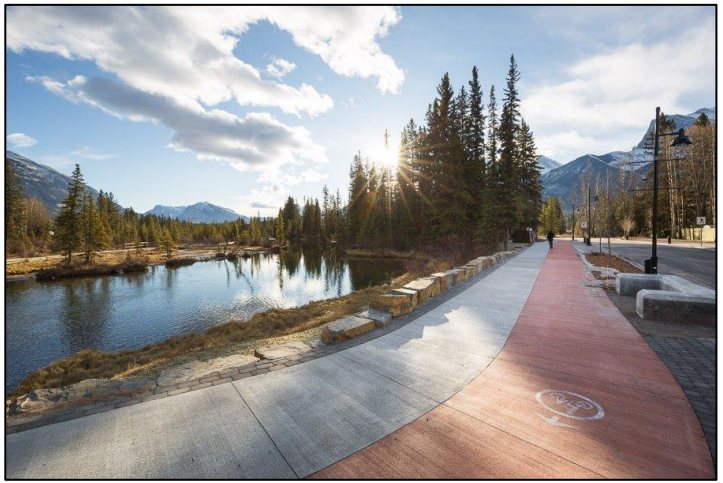


WHAT WE DO WITH CYCLING DATA

- Cycling policy and action plans
- Cycling network development
- Develop and execute monitoring plans
- Road safety assessments
- Data visualisations and interpretations
- Digital products and services
- **Workshops and participation**

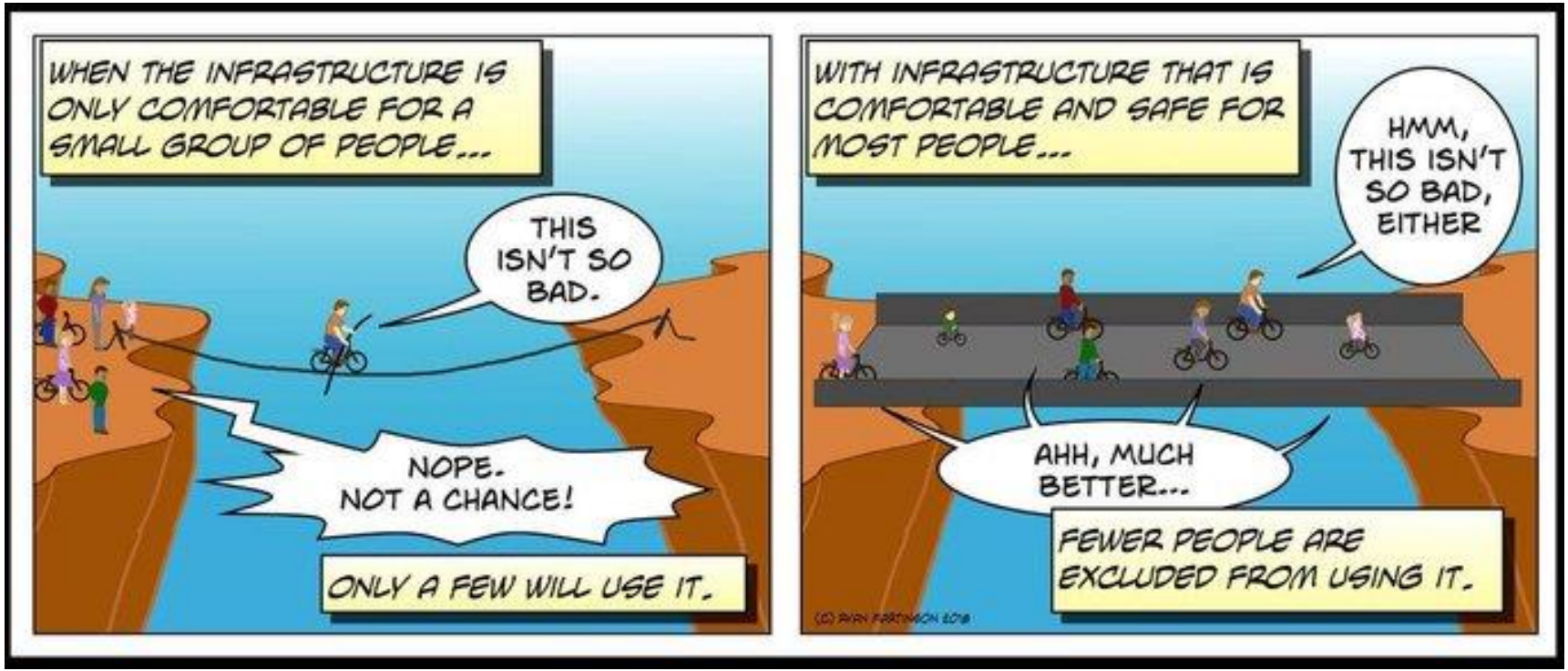
WHAT WE DO WITH CYCLING DATA

- Cycling policy and action plans
- Cycling network development
- Develop and execute monitoring plans
- Road safety assessments
- Data visualisations and interpretations
- Digital products and services
- Workshops and participation
- **Design of roads/public space**



CYCLING POTENTIAL

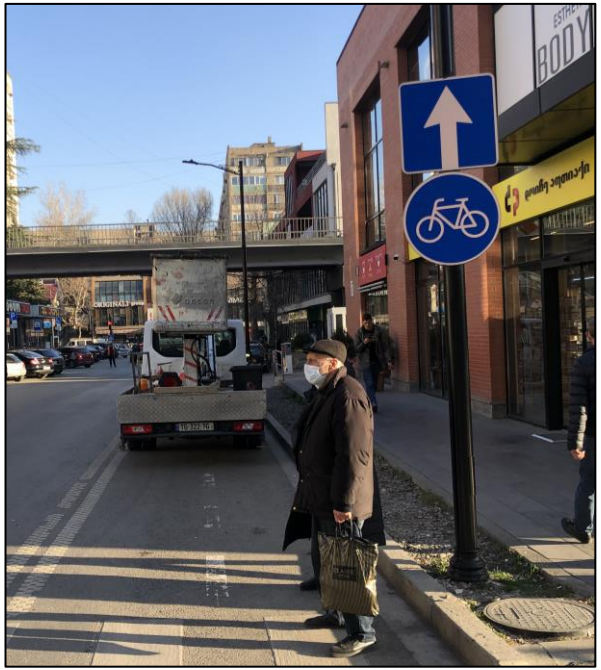
CURRENT USE ≠ DEMAND



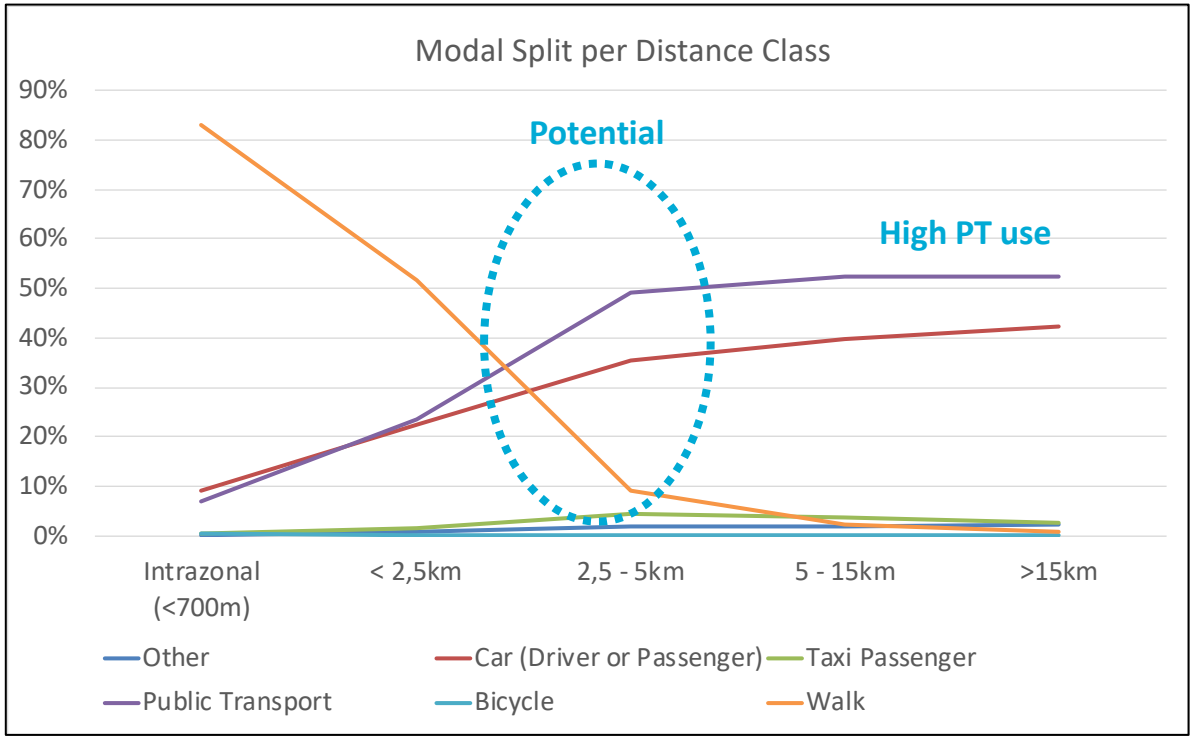
Source: Brent Toderian

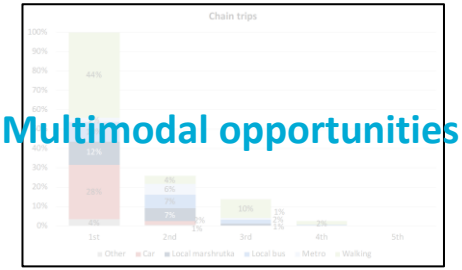
TBILISI – POTENTIAL FOR CYCLING

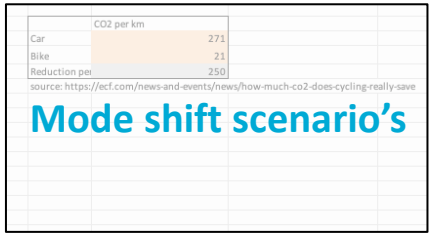
- Virtually no cycling and cycling infra
- City of 1.2 million (and growing)
- Around 500km^2 / 200sq mile /120.000 acres
- Challenges:
  - Road capacity/congestion
  - Environment
  - Air quality
  - Health
  - Etc..
- Where to start?
- No cycling data (but a mobility survey and some spatial data)



TBILISI – TARGETS AND TARGET GROUPS

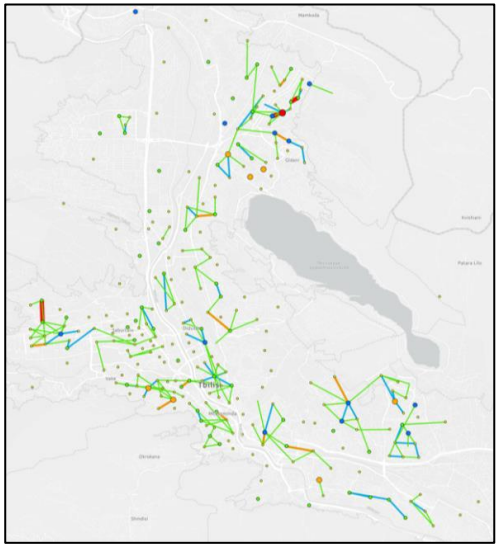




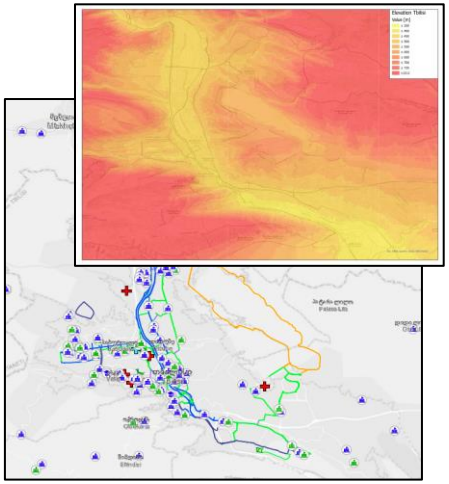


TBILISI – TO A DATA INFORMED CYCLING PLAN

Short trip data

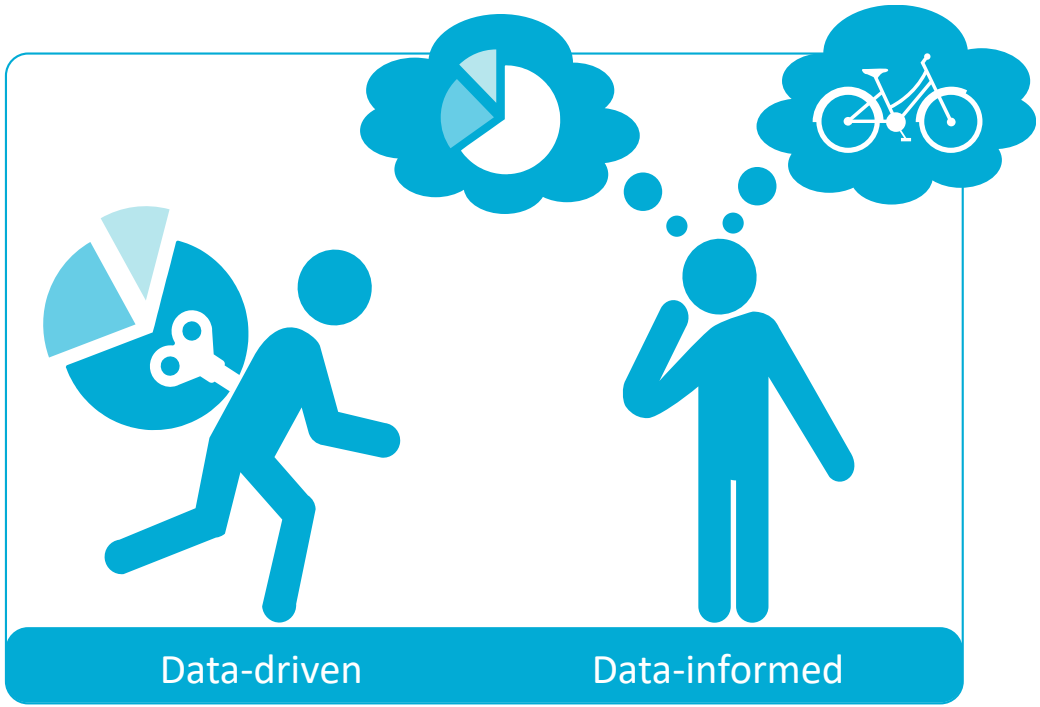


Spatial data



Interpretation and planning

Data informed cycling plan


Data-driven
Data-informed

DIGITAL PRODUCTS AND SERVICES

DIGITAL PRODUCTS AND SERVICES – BITS PROJECT

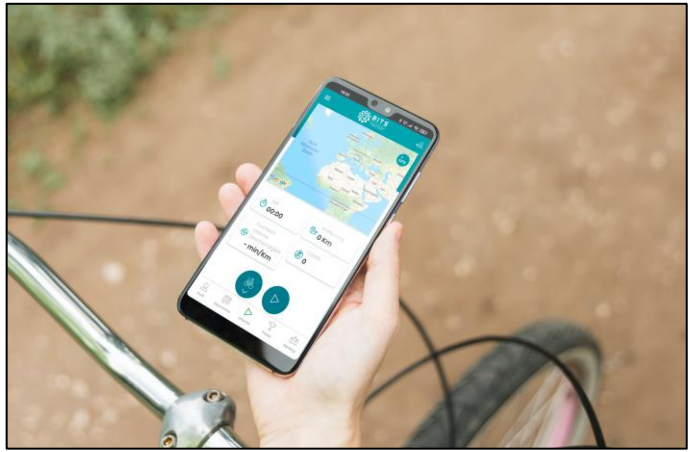
- BITS (Bicycles and Intelligent Transport Systems):
  - EU co-funded project
  - Cooperation between 13 partners from 5 countries (BE, DE, DK, NL, UK)
  - First large-scale roll-out of ITS in cycling (broad definition of ITS)
  - ITS = data
  - Collect, process, analyse and share data
  - Products and services directory

BITS
Bicycles and Intelligent Transport Systems

Interreg
North Sea Region
BITS
European Regional Development Fund

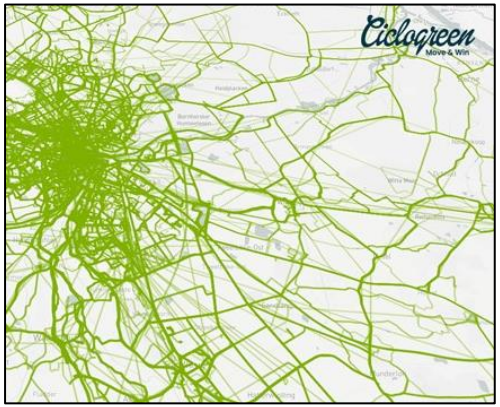
EUROPEAN UNION

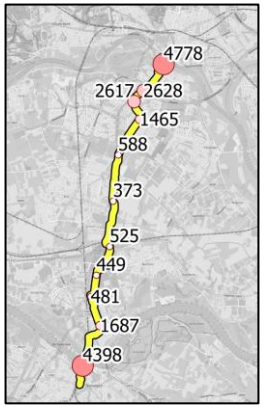
EXAMPLE 1: APPS



Data for users

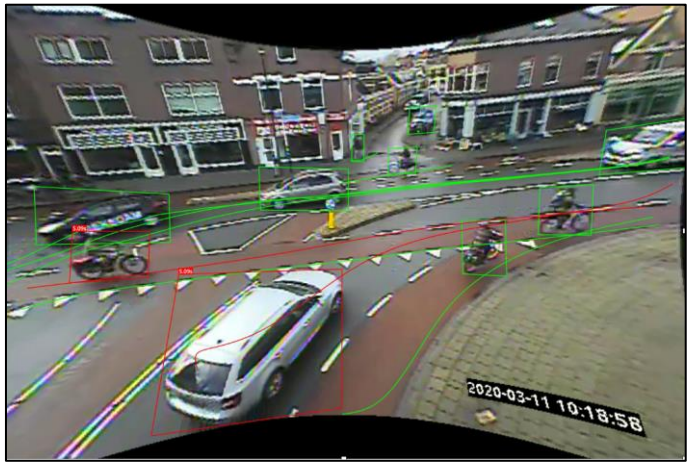
Data for policy makers

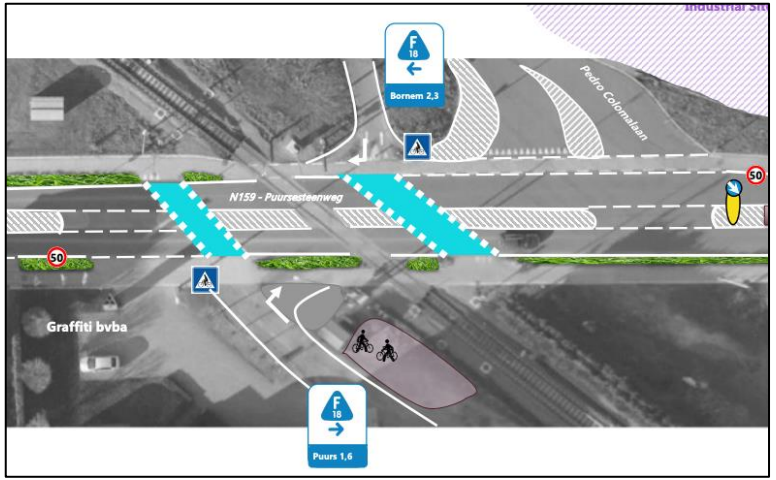




Source: TdF

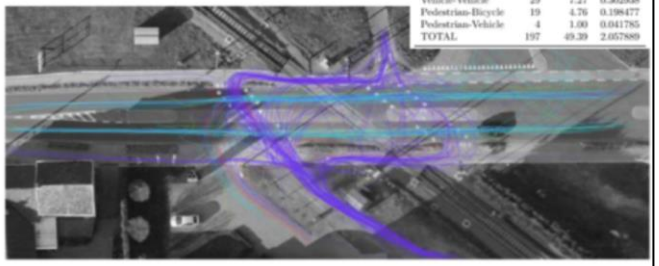
EXAMPLE 2: SMART CAMERA'S





Conflict analysis results

TYPE	Total	Per day	Per hour
Bicycle-Bicycle	113	28.33	1.180413
Bicycle-Vehicle	32	8.02	0.334276
Vehicle-Vehicle	29	7.27	0.302936
Pedestrian-Bicycle	19	4.76	0.198477
Pedestrian-Vehicle	4	1.00	0.041785
TOTAL	197	49.39	2.057889



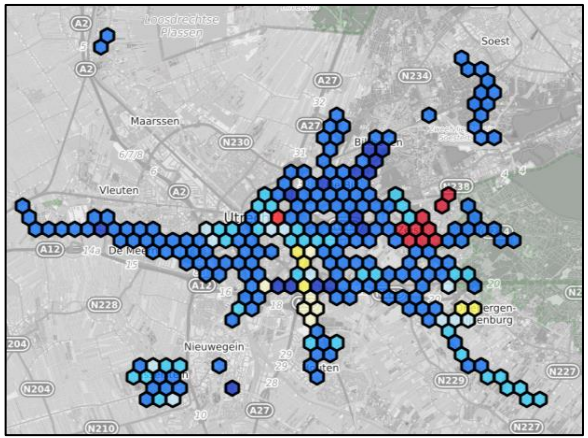
EXAMPLE 3: BIKE SHARE

Source: Deelfiets Nederland

App

Electronic lock

Sensors (PM)

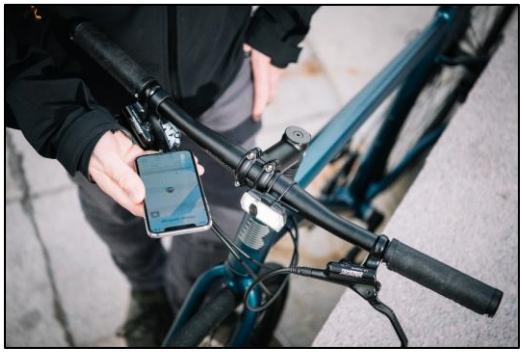


Source: Snuffelfiets

EXAMPLE 4: SMART COACHING

Bike library

Equipped with sensors

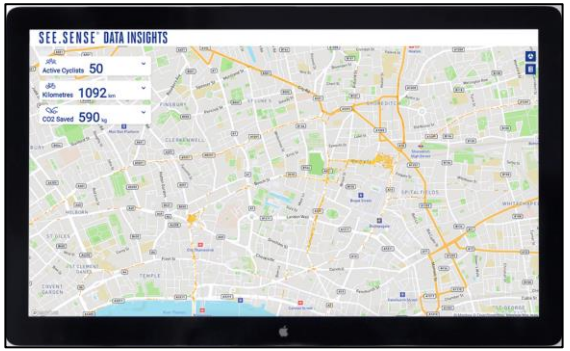


Coaching

Blue Door Pop-In

Cycle hire . Repair . Training . Cafe

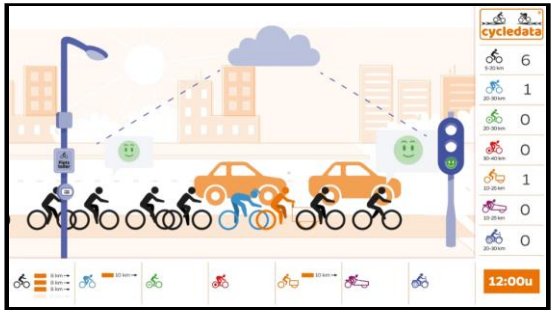
Policy



Source: See.sense

EXAMPLE 5: PRIORITY AND SAFETY CYCLISTS

Priority traffic lights



Detection

Smart Access Point

Volume of the bike

Signum

- Plug & Play
- Detects vehicles with an accuracy of more than 95%
- Data: number of cyclists and speed
- Detects in 2 directions
- Permanent and temporary measurements possible
- Realtime data available in interface
- Monitoring by Cycledata (Remote Battery Control and Remote Data Control to prevent data loss)
- Power by solar panel

cycledata®

i-Signum

- Give priority to cyclist at traffic ligths
- Large groups/columns are detected real time
- Better flow for cyclists by Intelligent Traffic Control System
- Real-time visible in My Cycle Traffic
- Monitoring by Cycledata (Remote Battery Control and Remote Data Control to avoid data loss)

cycledata®

Specifications

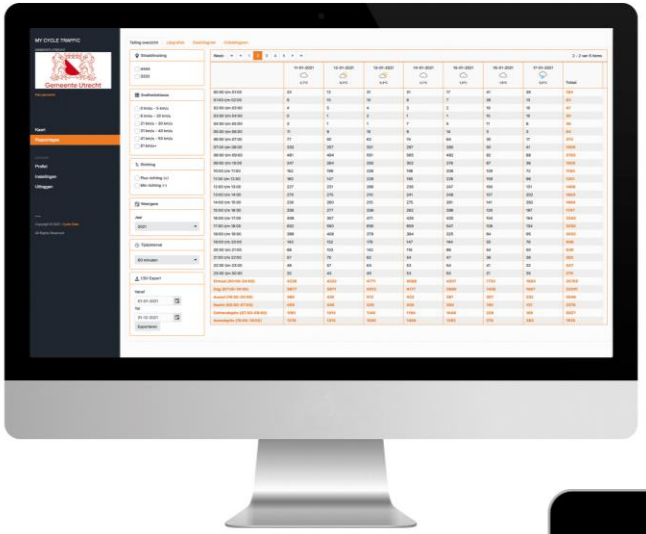
- Plug & Play
- Bicycle counting board incl. desired communication (sticker)
- Housing vandalism and theft proof

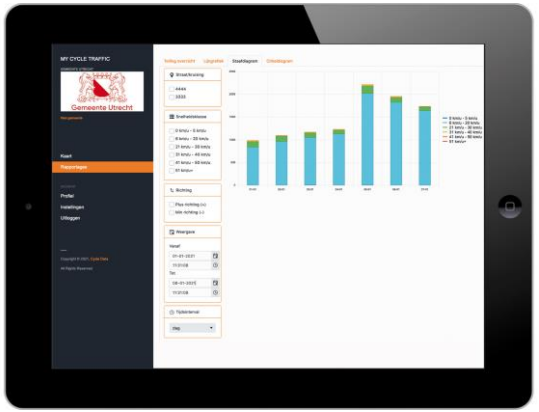
Displays available:

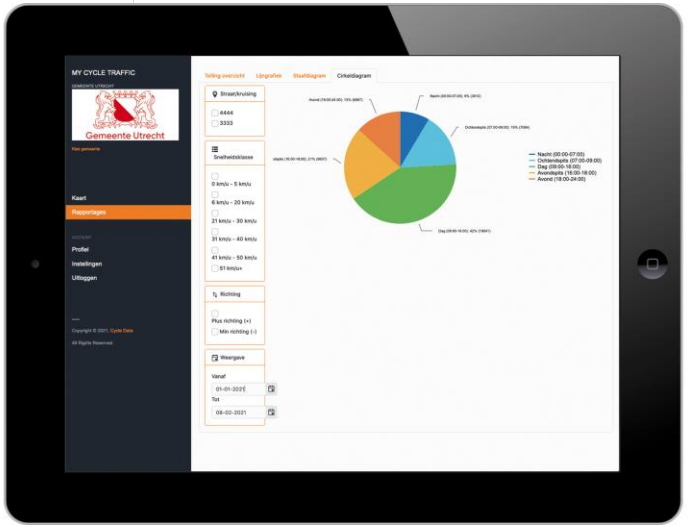
cycledata®

Interface ‘’My Cycle Traffic’’

- Realtime data
- Numbers, speed, direction, time per period and weather influence
- Reporting on demand in.csv format







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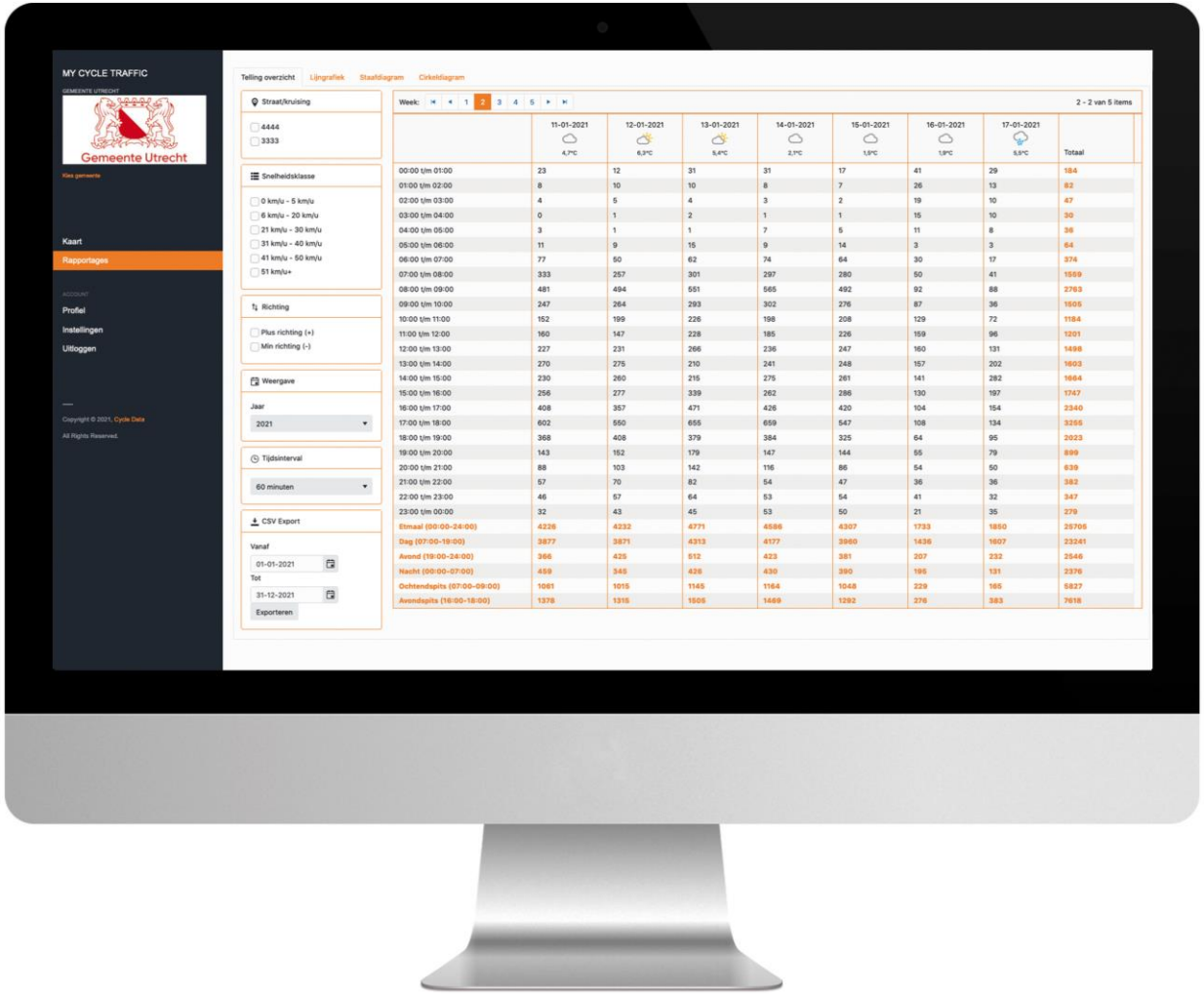
Dashboard

- Real time reports:
- Numbers
- Direction
- Speed category

- CSV files: numbers – direction – speed – time of passing



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Why detect cycling data?

Signum

- Understanding safety trends
- Monitoring travel patterns
- Prioritizing infrastructure
- Measuring the usage of bicycle facilities
- Evaluating the impact of projects
- Developing multi-modal transportation models
- Count data supports existing planning initiatives and easy to integrate into planning dashboards

i-Signum

- Give priority to cyclists (green flow)
- Less traffic light violations
- Preventing group formation waiting at traffic lights (Covid-1.5 metres)
- Preventing of cycle jams

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New

Cycling promotion

- Every 100 cyclists is planting 1 tree
- Cycle Loss Hours

Cycling Safety

- Bikescout

112

UTRECHT

Meer fietsers, meer bomen

Provincie plaatst telbord

door **Eric Roeske**

BUNNIK • Langs de Koningslaan tussen Utrecht-Oost en Bunnik staat sinds kort een fiets-telbord, waarmee vanaf maandag 13 september tot 27 september geteld wordt hoeveel fietsers passeren. Voor iedere honderd fietsers belooft de provincie Utrecht een boom te planten in het ernaast gelegen braakliggende terrein waar voorheen sedum werd gekweekt.

De actie 'meer fietsen = meer bomen' maakt deel uit van de Utrechtse Mobiliteitsweek, laat woordvoerder Miranda Mens van gedeputeerde Arne Schaddelee weten. „Op 1 september is het telbord geplaatst en is de telling achter de schermen ook gaan lopen. Het scherm staat er de gehele maand september. Nu staat het bord meestentijds nog uit, want de actie start pas maandag aanstaande. Ook dan pas gaat de campagne voor de Mobiliteitsweek daadwerkelijk van start via huis aan huis bladen en filmpjes in bussen."

De woordvoerster is benieuwd of er verschillen optreden tijdens de actie en de periode ervoor en erna. „We kunnen na september de data vergelijken van de gehele maand. Hoeveel mensen fietsten zonder de actie en hoeveel mensen fietsen als ze er iets voor terugkrijgen, in dit geval bomen in de buurt?

Bewoonster van de Koninglaan Kim Mutsaers denkt dat er volgende week zeker meer zal worden gefietst. „Ik heb het gedeeld in onze buurtapp. We gaan gewoon af en toe een half uurtje heen en weer fietsen daar!"

Enthousiast

Ook bedrijfsleider Harold Wennink van het nabijgelegen restaurant Vroeg is enthousiast. „We steunen natuurlijk dit initiatief om het sedumveld met bomen te laten opbloeien. Door de vernieuwde verkeerssituatie is twee jaar terug veel groen ingeleverd. Het is daarom goed dat de Koningslaan weer een mooie groene strook wordt. Wij zullen onze gasten en medewerkers stimuleren deze weken een keer extra met de fiets te gaan."

De eigenaar van Vroeg, Hans Kempers, denkt zelfs verder. „Ik heb begrepen dat er ook fruitbomen geplant gaan worden. De oogst daarvan kunnen wij uitstekend gaan gebruiken in onze keuken."

Op de Koningslaan worden twee weken lang alle fietsers geteld met een telbord. FOTO DE TELEGRAAF

Doelbakfietsen popu

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kennisplatform CROW

Invoer intensiteiten en fietspadbreedte

Maak globale schattingen als u geen gegevens heeft over de intensiteiten.
Klik na het invoeren op de knop "bereken breedtelabel"

maatgevende moment	bv. werkdag 8:00-9:00 u.	
uurintensiteit	200	*Vuistregel: spitsuur = 15% van etmaal, maar kan sterk fluctureren*
% richting 1	68%	*Gemiddeld 66% bij 2 richtingen. 100% bij 1 richting zonder spookfietse*
% richting 2	32%	
% duofietsers	14%	*(14 duo's). Gemiddeld 14%*
% brede fietsen	0%	*Bv. bakfietsen, scootmobiel. Gemiddeld 1%*
% brom-/snorfietsers	4%	*Gemiddeld 4%*
fietspadbreedte	250	*centimeter*
obstakelvrije ruimte links	50	*centimeter. Ruimte zonder obstakels hoger dan 15 cm.*
obstakelvrije ruimte rechts	50	*centimeter. Ruimte zonder obstakels hoger dan 15 cm.*
trottoirband links hoger dan 5 cm	nee	*Bij hoge banden wordt 25 cm van de effectieve breedte afgetrokken*
trottoirband rechts hoger dan 5 cm	nee	*Bij hoge banden wordt 25 cm van de effectieve breedte afgetrokken*
effectieve fietspadbreedte	250	*centimeter*

bereken breedtelabel

Berekening breedtelabel

bij opgegeven fietspadbreedte	Label D	*wacht tot computer uitgerekend is*
bepalend criterium	ontmoetingencriterium	

Minimaal benodigde effectieve fietspadbreedte

Breedtelabel	Effectieve breedte (cm)	Kans op gevaarlijke situaties en/of discomfort
A	440	Zeer klein
B	360	Klein = aanbeveling
C	270	Iets te groot
D	180	Groot
E	120	Zeer groot

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Innovations (coming soon)

- Measuring the volume of the bicycles: to see the difference between a child at a bike or a cargobike. Or to detect a moped compared to a racing bike, which have the same speed, but different impact at safety.

Detection of noise and air pollution:

- Decibel
- Nitrogen
- Fine dust
- CO^2

The results will also visible in the dashboard.

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Talking points and Q and A

QUESTIONS AND CONTACT INFORMATION

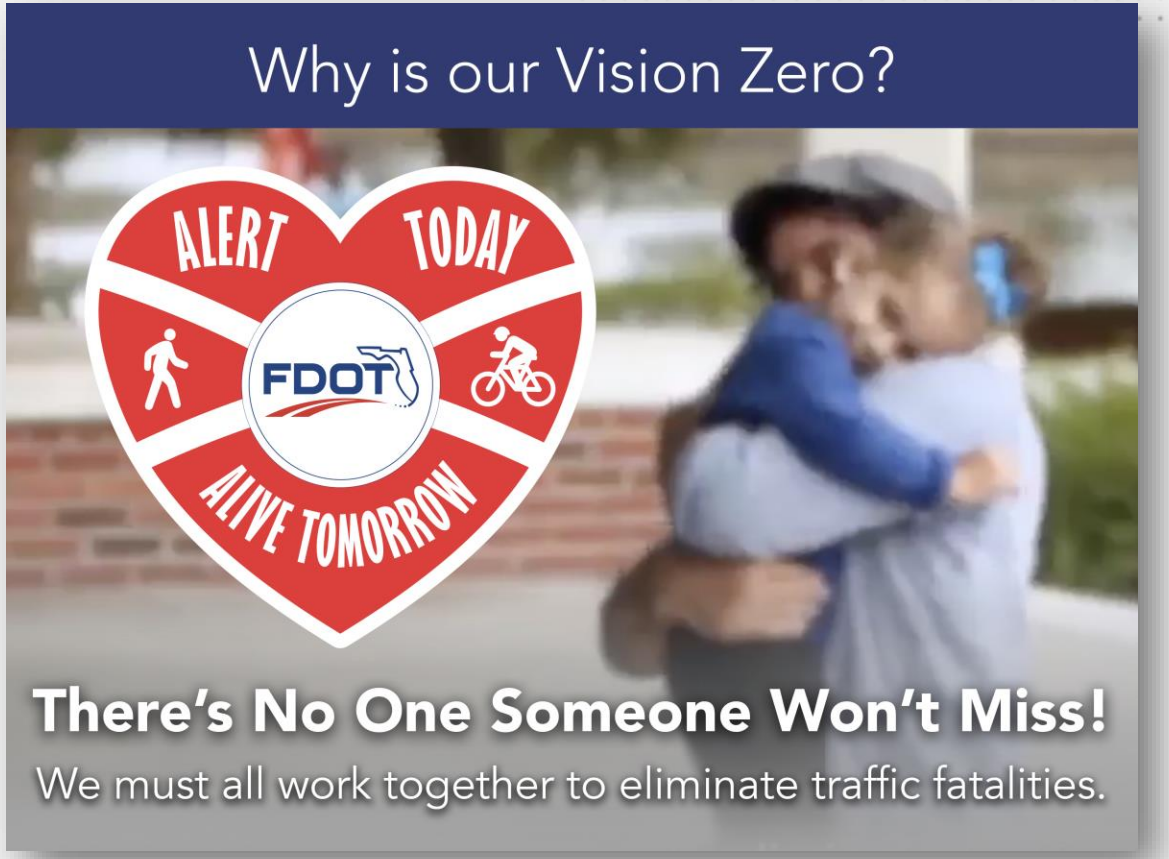
- FDOT Non-Motorized Traffic Monitoring Program - CO-NMTMP@dot.state.fl.us
- Eric Griffin – Eric.griffin@dot.state.fl.us
- Kara Schwartz - kara.schwartz@dot.state.fl.us
- Alyssa Frank - afrank@palmbeachtpa.org
- Chris Bruntlett - Chris.bruntlett@dutchcycling.nl
- Thomas Straatemeier - tstraatemeier@goudappel.nl
- Ruben Loendersloot - ruben@loenderslootgroep.nl
- James Rinehart - jrinehart@palmbeachtpa.org
- Adrian Puentes - arqapuentes@gmail.com
- Sjors van Duren - sjors.van.duren@rhdhv.com
- Conor Campobasso - ccampobasso@palmbeachtpa.org
- Deodaat Boer – Deodaat@cycledata.nl
- Robin Kleine - r.kleine@mobycon.nl
- Tracy Phelps, City of Boca Raton - tphelps@ci.boca-raton.fl.us
- Eric Katz – Eric.katz@dot.state.fl.us, ekatz@marlinengineering.com
- Liz Stolz – Estolz@marlinengineering.com
- Consulate General of the Netherlands in Miami – MIA-EA@minbuza.nl

BREAKOUT ROOM TAKEAWAYS

- The Bike to Train marriage is potentially, *the best modal combination in modern transport*, but you need to work on: *station area design, bike parking, first mile-last mile connectivity, transit frequency,* and *quality of transit.* High quality data can help provide cost effective and context sensitive solutions
- There are many different types of bicyclists (that typically ride somewhere between "fast flow or slow flow") which bring different rider behavior patterns that should be accounted for during the planning and design process of your bicycle facilities
- E-bikes and micro-mobility are a growing challenge for Florida *and the Netherlands* in regard to *safety*, *infrastructure comfort*, and *accurate data collection technology*.
- Dutch transportation professionals also have to deal with: complex intergovernmental government coordination, political pressures, ***plenty of car-oriented community stakeholders***, funding resource challenges, engineering constraints, etc., *just like Florida*
- Bike/pedestrian infrastructure projects take time and patience, *even in the Netherlands.* Dedicated community champions, policy improvements, political support, and *high quality data* are an ideal formula to accelerate high impact projects
- High quality data and *the proper communication of the data's results* are a great tool to effectuate change

THANK YOU FOR ATTENDING!

- Recording will be made available soon after the webinar
- Please complete the follow-up survey that will be sent via email at the conclusion of this webinar
- Contact NMTMP@dot.state.fl.us for any questions related to today's presentation and/or AICP CM /PDH credits



THANK YOU!