

# The Netherlands

## RESILIENCY & MOBILITY TOUR

Baltimore Metropolitan Council, Bicycle and Pedestrian Advisory Group  
January 17, 2024



DELFT



THE HAGUE



ROTTERDAM



ZEELAND





Mayor Gavin Buckley

# Netherlands Trip Overview

## LEARNING OBJECTIVES:

- **Resiliency Challenges:** See how a country that sits below sea level has adapted.
- **Best Practices:** To confirm that our current plan aligns with research and experience.
- **Public Transport:** Understand and see the return on investment on pedestrian and cycling infrastructure investments.
- **Multi-Modal Transit:** Making connections to microtransit to reduce cars on the road.
- **Funding:** Learn about innovating funding strategies and how the Dutch have avoided the politicization of resiliency projects.



<https://www.youtube.com/watch?v=0lCii3mDSEk>

# Itinerary:

**MON., NOV. 13:**

## THE HAGUE

- Netherlands Water Partnership (Ministry of Infrastructure & Water)
- Dutch Cycling Embassy
- Dutch Cycling Tour to Scheveningen
- Bosch Slabbers



# DUTCH CYCLING EMBASSY



**Experience** the Dutch cycling culture first-hand



**Think** about best possible solutions and achievable results



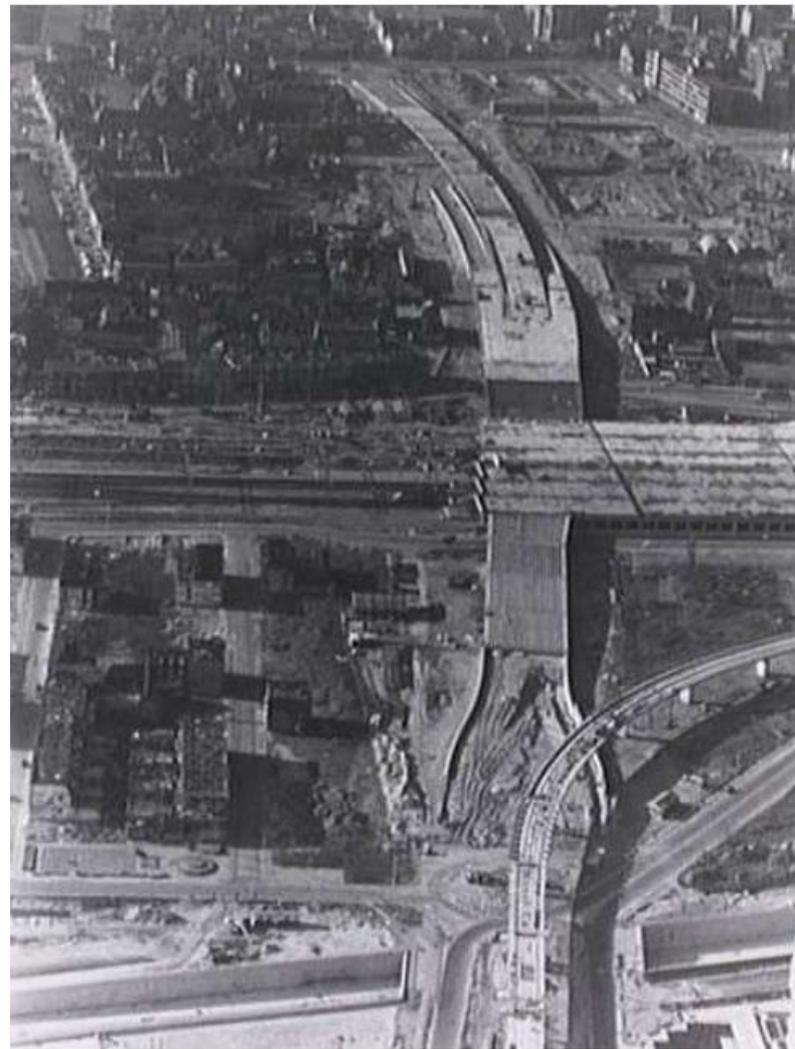
**Act** by applying these solutions to your local context



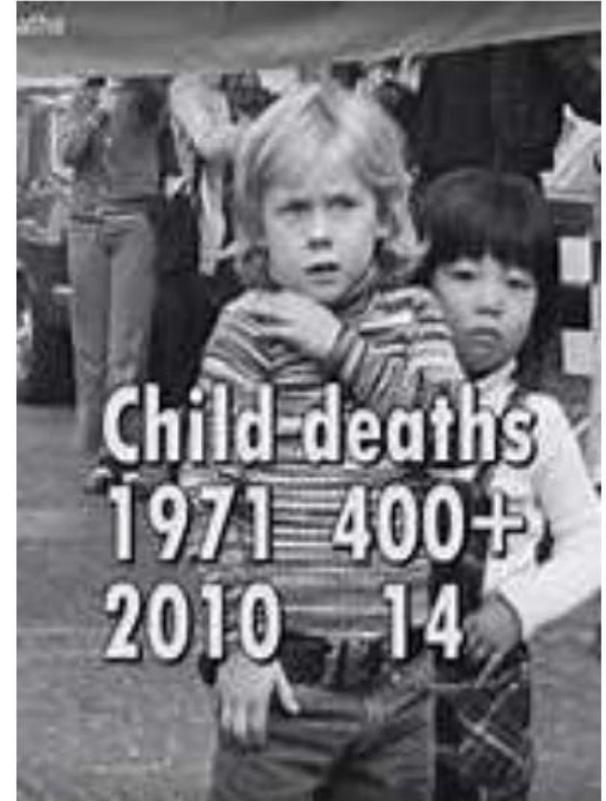
**Learn** more about effective policies and best practices



- After the Second World War planners prioritized cars to manage the increased traffic.
- Structuurplan Dudok – 1949.
- The Hague's plans foresaw no role for cyclists.
- Bombings as a unique opportunity to erase old structures and build new ones.
- Plans like the 'Dwarsweg' were



# Protests all over the Netherlands



# The Hague Transformation

## Has Annapolis explored a car-circulation plan?

- No-way, not possible, cars need access everywhere
- Open to testing in a small area
- Exploring how to implement
- Underway
- Whats a car-circulation plan?

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## Make way for bikes!

Cycling Strategy The Hague 2040



# Circulation Study Results

- Less through traffic in the city centre;
- Accessibility by car of the city centre still good;
- Air quality has improved significantly;
- Quality improvement for pedestrians and cyclists due to increase of car free area;
- Currently one of the largest pedestrian zones in Europe.



# Reallocating Right of Way



Before



After

# Itinerary

**TUE., NOV. 14:**

## ROTTERDAM

- Arrival by train, walk to municipality
- Dutch cycling tour with stops at water storage parking garage, Central Station, and Urban Water Square Benthemplein



**EXAMPLE: HOFPLEIN SQUARE**, an intersection where pedestrians, bicycles, cars, buses and trams all safely interact.





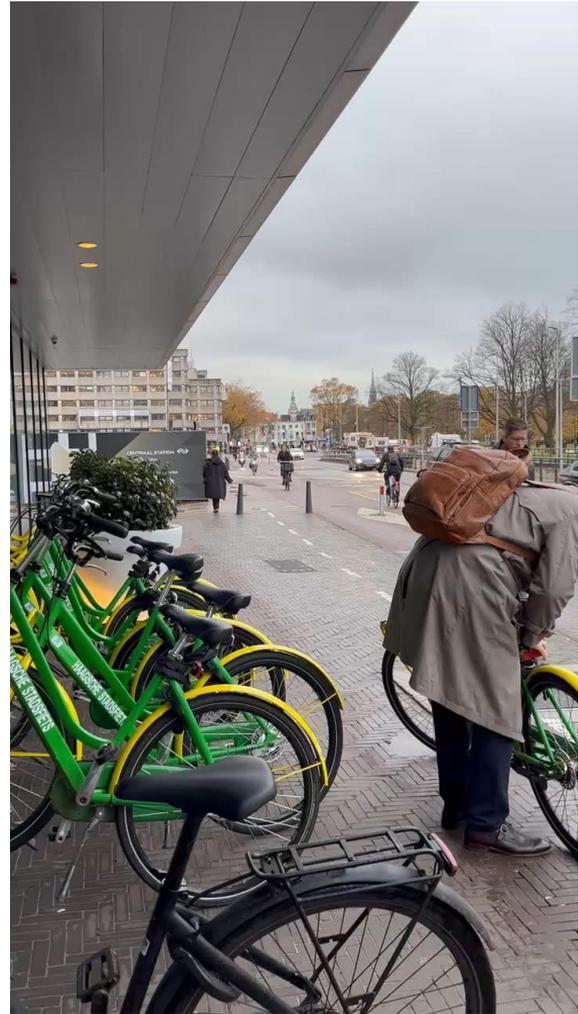
## BIKE STORAGE

The holistic approach to urban planning requires convenient storage for users.



# Day 4 – International Safe Cycling Conference

- On our way to the conference.
- Typical rush hour in Den Haag

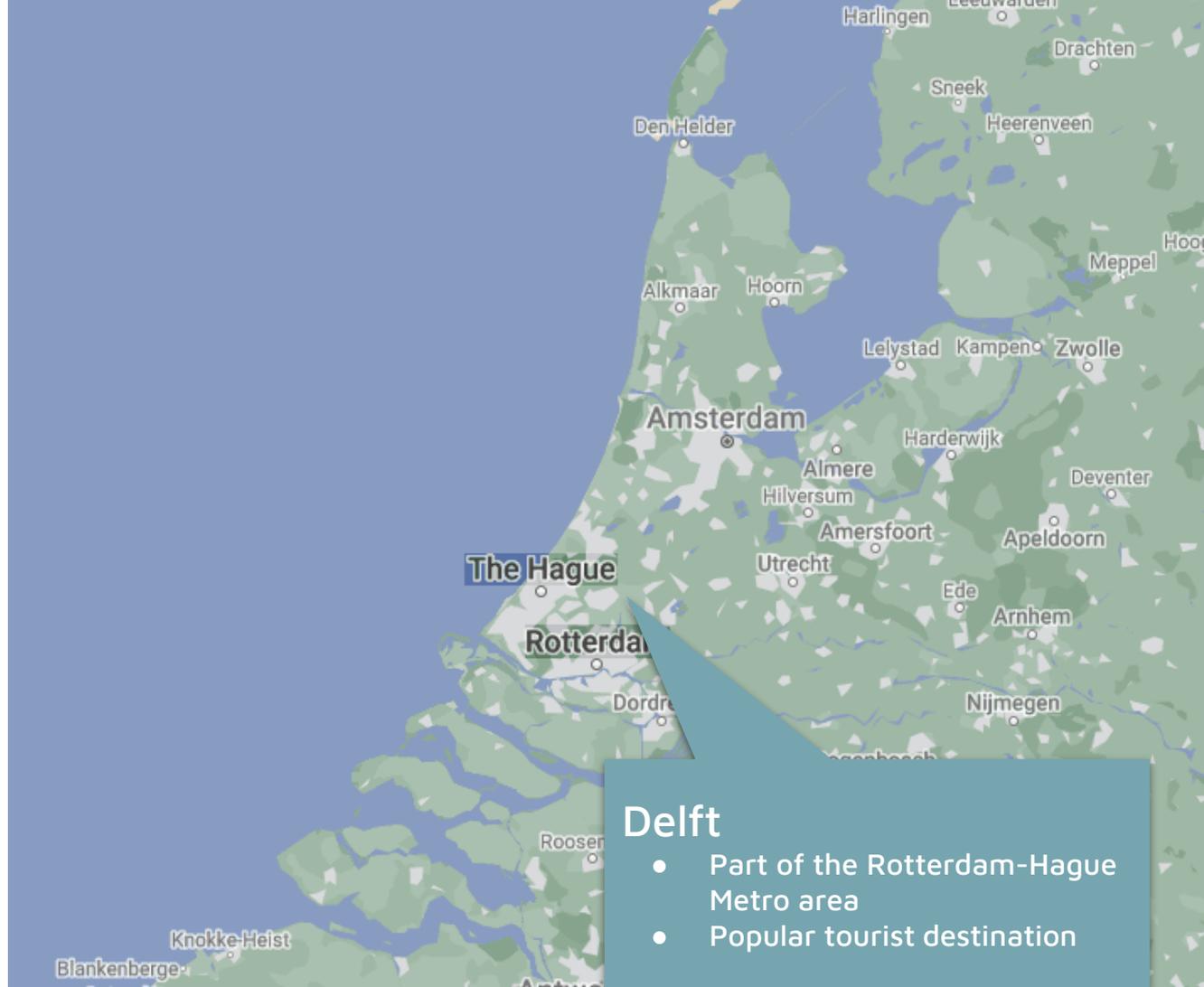


# Itinerary

**WED., NOV. 15:**

## DELFT

- Arrival by train at Central Station
- Visit to Hoogheemraadschap Delft and IHE Water Institute
- Visit to TU Delft Campus/Flood Proof Holland
- Dutch Cycling Tour Delft
- Alt: Walking Tour



## Delft

- Part of the Rotterdam-Hague Metro area
- Popular tourist destination

## TRAFFIC SAFETY

Reducing the risk of an accident by 50% per kilometre cycled would result in savings related to:

- human costs (costs of pain and suffering)
- production loss
- medical costs
- administrative costs

Savings of \$/ 14.800 million.

## Travel time

An average cycling trip would be reduced by 2.5 minutes.

Savings of \$/ 26.398 million.

Compared with other means of transport, people that cycle:

- live longer
- suffer less from illness
- are happier
- are more productive

Savings of \$/ 7.642 million.

## HEALTH EFFECTS

## Equality

- Higher participation in social activities
- Less social exclusion
- Creation of social capital

## TRAVEL TIME RELIABILITY

Reliability of travel time for people cycling would improve because of

- reduced waiting times at junctions
- exclusive lanes separated from other vehicles

Savings of \$/ 9.416 million.

For every \$01 invested in Lima's Bike Plan, the city saves:



**s/19**

Benefit/Cost Ratio 19.0

## LIMA'S BIKE PLAN SCBA RESULTS

Total costs: \$/ 1.211 million (-)  
Total benefits: \$/ 22.978 million (+)  
Balance: \$/ 21.766 million (+)

## Comfort

- Wider bike lanes
- Improved lighting
- Clearer signposting
- Increased perception of safety
- Priority at junctions
- Quality of paving

There is less congestion when motorised trips are exchanged for bicycle trips.

Savings of \$/ 26.168 million.

## AIR AND NOISE POLLUTION

More bicycle trips would result in cleaner air and less noise pollution.

Savings of \$/ 2.919 million.

## CONGESTION

# BIKE-NOMICS IN LIMA

Decisio developed a Social Cost Benefit Analysis (SCBA) for the proposal of the updating of the Cycling Infrastructure Plan for Lima and Callao (**Bike Plan**) prepared by The World Bank.

### SCBA for Lima's Bike Plan

Several bikenomics aspects were analysed, assuming an increase of Lima's cycling modal share from 0.9% in 2019 to 15% of trips by 2050.

## What is a Social Cost Benefit Analysis (SCBA)?

• A standard methodology (mandatory in The Netherlands for public investments) for evaluating the impacts of any investment compared with its costs.

## What is bikenomics?

The assessment of social impacts related to cycling.

# Bikenomics

<https://cedelft.eu/publications/handbook-on-the-external-costs-of-transport-version-2019/#:~:text=The%20Handbook%20provides%20methodologies%20and,and%20costs%20of%20habitat%20damage.>

The screenshot shows the top navigation bar of the CE Delft website with a yellow background. The navigation items are: CE Delft (with logo), About CE Delft, Topics, Publications, Working at, and Contact. Below the navigation bar is a dark blue header section containing the text 'REPORT' in small yellow letters, followed by the main title 'Handbook on the External Costs of Transport – Version 2019' in large white font. Underneath the title is a horizontal line, and below that is a metadata line with a calendar icon, the date 'June 2019', another calendar icon, and the categories 'Freight Transport, Aviation, Passenger Transport, Transport Economics, Maritime Shipping'. The main content area is white and contains two paragraphs of text. The first paragraph describes the handbook's purpose and content. The second paragraph mentions that this is an update of previous versions. On the right side of the page, there is a grey box titled 'Your contact person' with a circular profile picture of a man in a suit.

CE Delft About CE Delft Topics Publications Working at Contact

REPORT

## Handbook on the External Costs of Transport – Version 2019

June 2019 Freight Transport, Aviation, Passenger Transport, Transport Economics, Maritime Shipping

The Handbook on the external costs of transport presents the best practice on the methodology to estimate different categories of external costs of transport. Additionally, it provides an overview of state of the art input values (e.g. the value of time or the value of a statistical life) that can be used to produce estimations of external costs by users of the Handbook themselves. Finally, the Handbook presents total, average and marginal external cost figures, which can be used directly by the users.

The 2019 version of the Handbook is an update of the 2008 and 2014 versions. Any new evidence that has become available on the methods and input values for estimating external costs of transport in research and policy since

Your contact person

# Briposan Geosynthetic Textile Polymer Liner

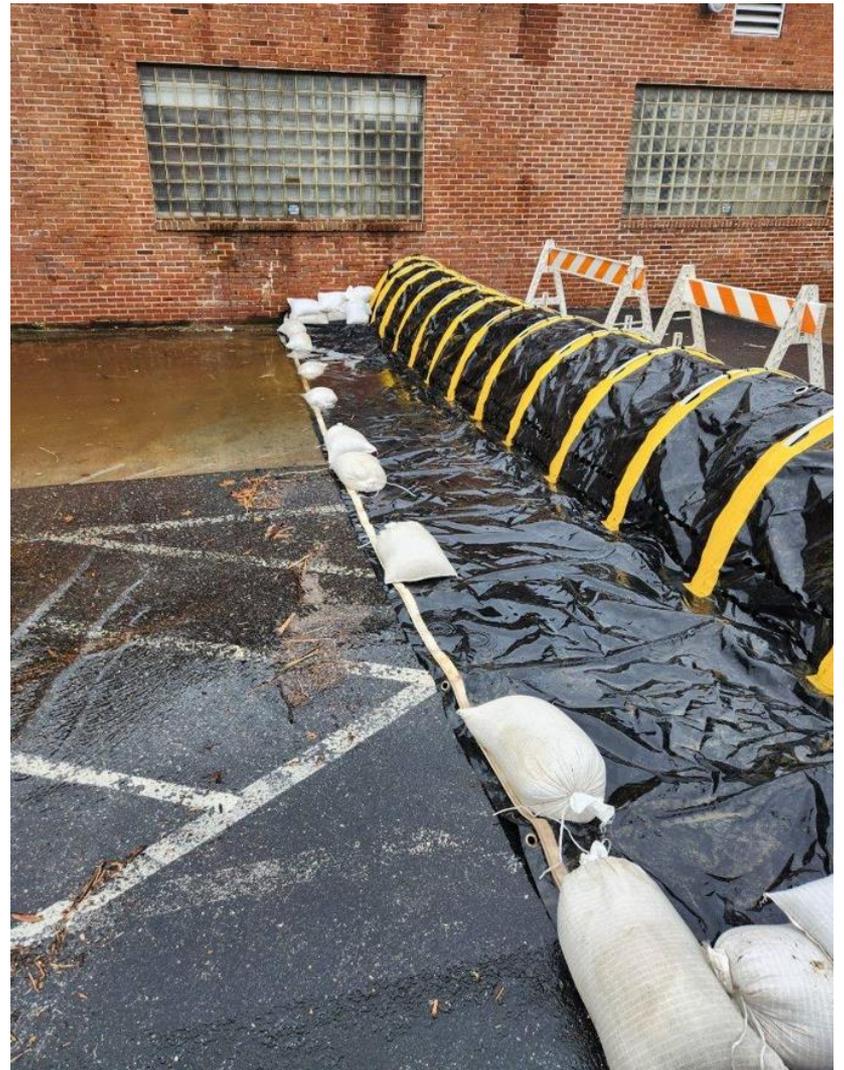
THE DELFT INSTITUTE FOR WATER EDUCATION



When hydrated, performs better than 3 meters of compacted clay



Compromise Street,  
City of Annapolis,  
January 9, 2024



# Itinerary

**FRI., NOV. 17:**  
**ZEELAND**

- Maeslant Barrier - Storm Surge Barrier
- Noordwaardpolder
- In-Dune Parking Garage Katwijk aan Zee
- Visit to Van Nelle Factory



**“Zuid-Holland”**

- Southernmost province in the Netherlands
- Large parts are below sea level.

# TREES IN PUBLIC PLACES AND WATERFRONTS



- Mature trees in event spaces
- Co-exist with parking
- Provide ecoservices - stormwater filtration & capture, reducing temperatures, carbon capture
- Preserves viewscape





## Maeslant Barrier:

- Storm Surge Barrier
- Two 689-foot gates with two 777 feet steel trusses holding each



# Takeaways

A group of approximately ten people, mostly men, are standing outdoors in front of a multi-story brick building. They are dressed in various styles of rain jackets and coats, including a green hooded jacket, a grey trench coat, a blue hooded jacket, a yellow jacket, and a black jacket. One man in the center is wearing a blue hooded jacket and is sitting on a dark stone ledge. The background shows a brick building with many windows and some trees with autumn-colored leaves. The sky is overcast.

Attend Educational Sessions

Bring Knowledge Back

Meet with Suppliers

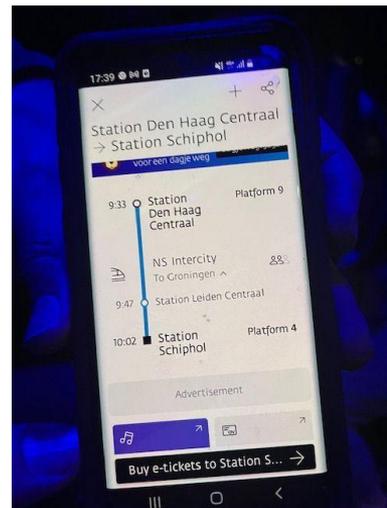
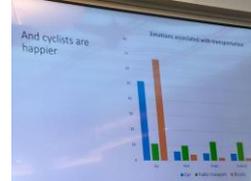
Building Networks and Resources

Investigating New Technologies



# INTEGRATED TRANSPORTATION SYSTEMS

- Trains
- Trams
- Bikes
- Buses
- Scooters
- Pedestrians



## Secretary Rebecca Flora Address

<https://www.youtube.com/watch?v=S5pVfxaeRuY&t=4s>