INTERACTIVE WORKSHOP:

Rapid AND Reliable Buses

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Outline

- **BRT+ CoE**

- Reliability is key component to satisfy transit users

- Hands-on activity
BRT+ CoE funded by VREF

Members BRT+Centre
Outline

- BRT+ CoE

- Reliability is key component to satisfy transit users

- Hands-on activity
What do we want on transit services?

Fast  
Reduce travel time

Low Waiting Time  
Increase frequency

Comfort  
Increase capacity

Reliable  
Reduce variability of travel time
What do we need to get what we want on transit services?

Fast
- Reduce travel time
- Increase speed

Low Waiting Time
- Increase frequency
- Increase fleet size or increase speed

Comfort
- Increase capacity

Reliable
- Reduce variability of travel time
- Regular headways
- Increase fleet size, size of vehicles, or increase speed
TODAY MESSAGE

¡INCREASE SPEED &
REGULAR HEADWAYS!

Fast
Low Waiting Time
Comfort
Reliable
Outline

- **BRT+ CoE**

- **Reliability is key component to satisfy transit users**

- **Hands-on activity**
Hands-on activity

Objective: Generate a debate about which measures are important to provide reliable public transport.

Interactive spreadsheet, each participating group have to decide the measures to take for next period, based on current reports and upcoming forecasts.
The Scenario

- One-direction bus corridor with 20 stops with 2 bus services:
  - An all-stop service
  - Express service (or limited stop service)

- On the spreadsheet only the yellow cells can be modified

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3 measures to improve service

• Express service design

• Adjust frequencies

• Improve regularity

\[ E(w) = k \cdot E(h) \]

Waiting time \quad Headway
Constraints

• Maximum Monthly Budget.

• Users select the most attractive line.

• Investment in headway control will reduce $k$, however the best you can do is half the headway.

• Even though over-crowding is not considered in the direct costs, you should consider comfort as an important attribute in your analysis.
Activity 1

1. Please analyze “M0 Report”. There you will find the actual service offered, and some aggregate and disaggregate performance indicators. System indicators are in blue, All stop indicators are in orange, and Express indicators are in grey.

2. Based on current demand patterns and the indicators explained above, open “M0 summary” and decide where the express service should stop, frequencies for both services, and the amount of budget used for headway regularity.

3. Debate: In your opinion, how important is reliability for public transport users? And for public transport agencies? Do you think reliability is considered in your city’s public transport system?
Activity 2

1. Please analyze “M1 Report”. How well did you perform? What would you do next differently?

2. A metro station will open close to bus-stop number 9. It is expected that the demand in that station will increase to similar levels at bus-stop number 2.

3. Based on current demand patterns and the other indicators open “M1 summary” and decide where the express service should stop, which would be the frequencies for both services, and what amount of budget to use for headway regularity.

4. Debate: How important do you think service coordination is for public transport users? Are different services and public transport modes coordinated in the planification process in your city?
Activity 3

1. Please analyze “M2 Report”. How well did you perform? What would you do next differently?

2. Budget was reduced for the next month without any reason.

3. Based on current demand patterns and the other indicators open “M2 summary” and decide where the express service should stop, which would be the frequencies for both services, and what amount of budget to use for headway regularity.

Activity 4

1. Please analyze “M3 Report”. How well did you perform?

2. You can also check “Summary”, which summarizes the level of service provided in every month. You can also check again M0, M1 and M2 Reports.

3. Debate: Is this information enough to make decisions with the focus on user’s experience? How much variability do you perceive in user’s experience? How does crowding affect this indicators?