

# Connecting Calgary Drivers with Real-time Travel Time Information




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The City of Calgary

# Overview

- ▶ Freeway Travel time
- ▶ Arterial Travel time using portable Dynamic Message Signs( DMSs)
- ▶ Work Zone / Portable Travel time



# Purpose

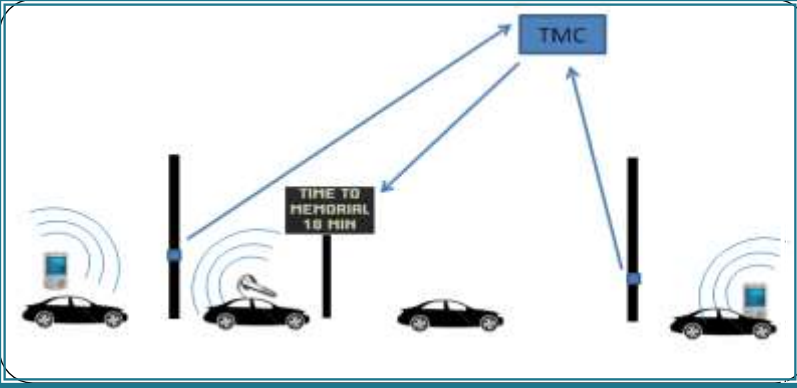
- ▶ Improved ability for drivers to make informed route planning choices
  - ▶ Decreased driver frustration
  - ▶ Collection of transportation data for planning purposes
- 

# Pilot Project– 2010

- ▶ Pilot project using Bluetooth technology to display travel times for drivers
- ▶ 2 weeks–Manual process
- ▶ Very successful



# Travel Time along Deerfoot Trail



2012

## Phase-I

- Length - 24 km
- Detectors - 15
- DMSs—7
- In house design, RFP for Bluetooth Detectors
- Cost- \$200,000

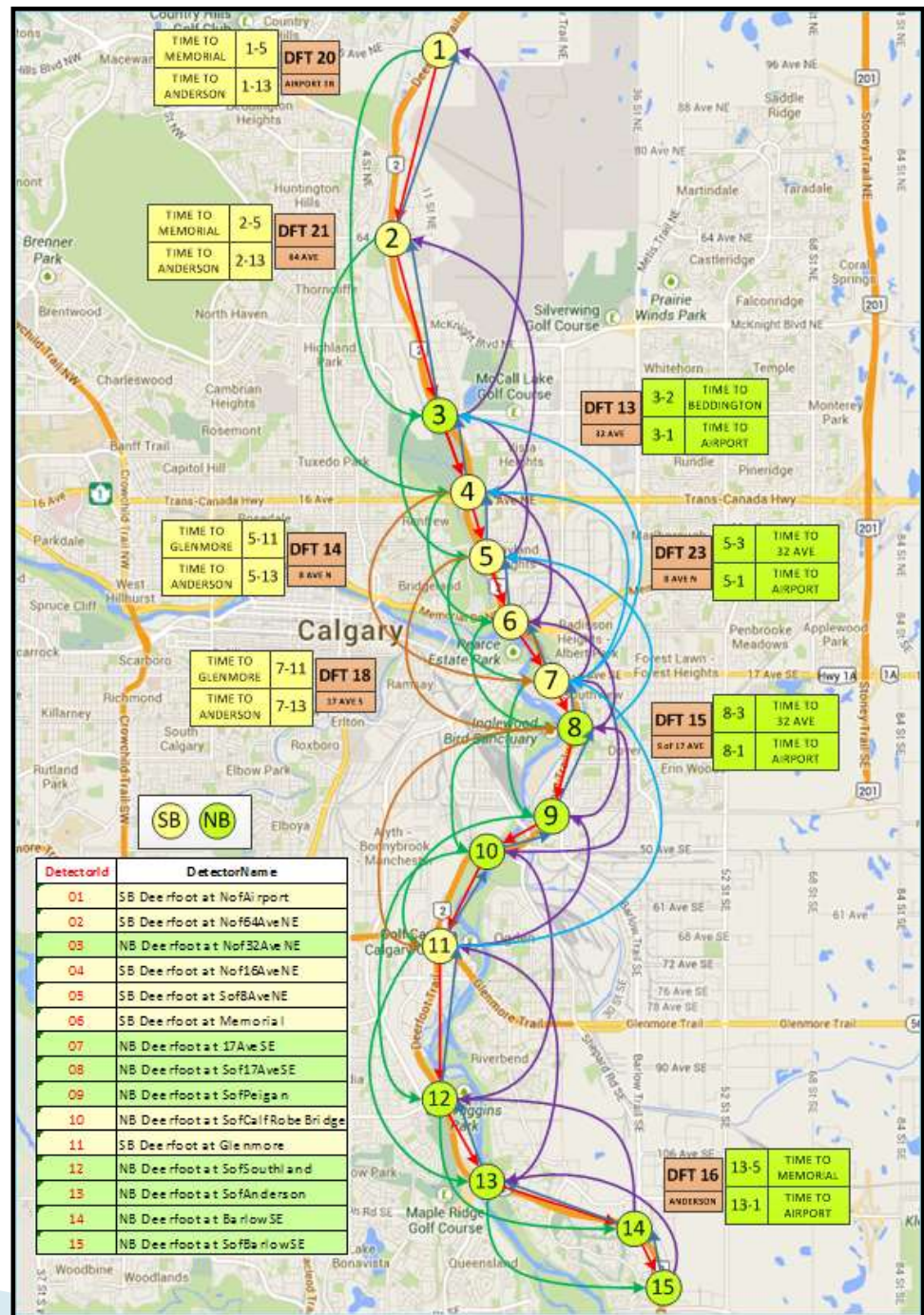






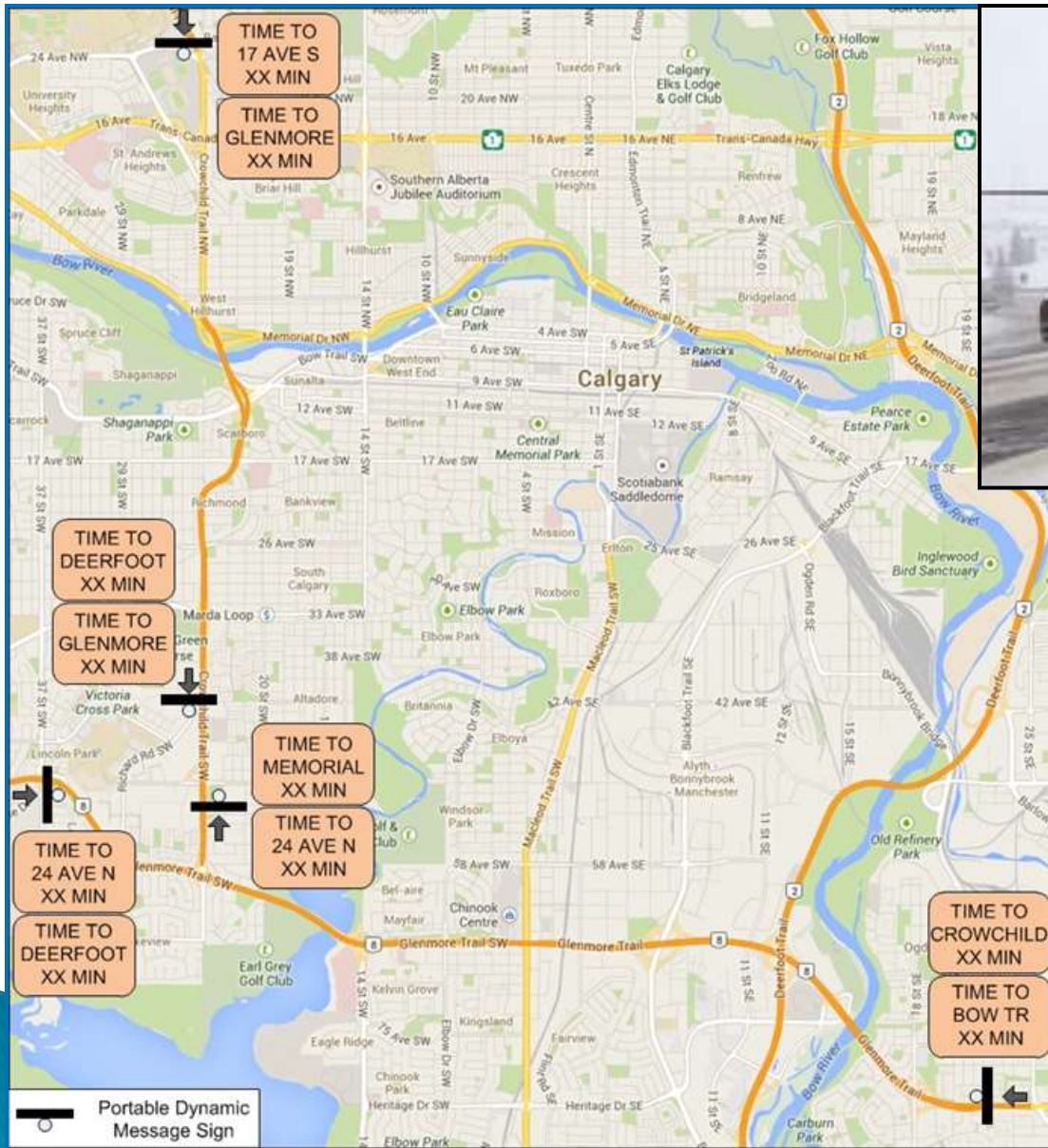
# Deerfoot Trail Travel Time

- ▶ Detectors
- ▶ Links
- ▶ Routes





# Travel Times along Crowchild Trail and Glenmore Trail



2014

## Phase-II

- Length - 18 km
- Detectors - 11
- Portable DMSs—5
- In house design, RFP for Bluetooth Detectors
- Cost- \$100,000



# Memorial Drive Work Zone Travel Time

2013

Duration – 4 months

Travel Time Zone Length– 6km

Accuracy– within 1 min



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Travel time information for various routes:

- DEERFOOT: AIRPORT TO ANDERSON**  
DRIVE TIME 15 MIN  
Displayed at 2014/03/21 11:49:00
- DEERFOOT: AIRPORT TO ANDERSON**  
DRIVE TIME 20 MIN  
Displayed at 2014/03/05 08:02:00
- DEERFOOT: AIRPORT TO MEMORIAL DR**  
DRIVE TIME 10 MIN  
Displayed at 2014/03/05 08:02:00
- DEERFOOT: 64 AVE NE TO ANDERSON**  
DRIVE TIME 19 MIN  
Displayed at 2014/03/05 08:02:00
- DEERFOOT: 64 AVE NE TO MEMORIAL DR**  
DRIVE TIME 8 MIN  
Displayed at 2014/03/05 08:02:00
- DEERFOOT: MEMORIAL TO ANDERSON**  
DRIVE TIME 11 MIN  
Displayed at 2014/03/05 08:02:00
- CROWCHILD: 24 AVE NW TO 17 AVE SW**  
DRIVE TIME 10 MIN  
Displayed at 2014/03/05 08:01:00
- CROWCHILD: 24 AVE NW TO GLENMORE**  
DRIVE TIME 14 MIN  
Displayed at 2014/03/05 08:01:00
- CROWCHILD: FLANDERS AVE TO GLENMORE**  
DRIVE TIME 3 MIN  
Displayed at 2014/03/05 08:01:00
- CROWCHILD: FLANDERS AVE TO DEERFOOT**  
DRIVE TIME 10 MIN  
Displayed at 2014/03/05 08:01:00
- CROWCHILD: 50 AVE SW TO KENSINGTON**  
DRIVE TIME 5 MIN  
Displayed at 2014/03/05 08:01:00

Calgary travel times

... that collects publicly available information from Bluetooth device congestion is used to gather travel time information ...

# Challenges & *Lessons Learned*

- Cellular Modem
  - Communication ➤ Relay to keep connection alive
  - Connector ➤ anti-oxidant joint compound
  - Vibration ➤ mod-wired, model, vendor
- Solar Panel
- Location of Deployment
  - Permanent Power Source



# Questions

