Home Page & Expanded Systems Map – Demo

James Whiteneck
Introduction

- Portal archives a large amount of data
  - Over one terabyte of local transportation data
  - Traffic speeds, volume, incidents, etc

- Want to make this data accessible and useful
  - Make it visual: maps, charts, graphs
  - Portal 2.0: Intuitive, Interactive

- Attempting to combine data to get a better understanding
  - Integrated data provides more information and context than single data sources
Portal 2.0 Home Page

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Maps
- Speed maps display live traffic speeds
- Incident map shows locations of major incident for this year
- Cameras map shows street camera locations
- Incident and cameras icons are clickable to get detailed information

End goal is to let users customize their own homepage to display custom maps, graphs and charts
Controls to manipulate the map
- Add, remove layers; select date and time

Calendar
- Allows user to select date and time and see what the traffic conditions were like for that day
- Data goes back to 2004

Camera markers at street camera locations
- Click on a camera to get a live image from that camera

Incident markers
- Show incident location graphically
- Typical use: select a date of a major incident and get a visual picture of how that incident affected traffic during that time
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Shreemoyee Sarkar
Display of current speeds (04/01/2009 5:15–5:30 PM) vs. historical speeds (previous 5 days; same time period)
- Graphical display of weather statistics showing the temperature and rainfall for one day (04/01/2009).
Current map shows heavy congestion compared to the ‘typical’ congestion shown on the historical map

Weather data shows heavy rainfall on the selected ‘current’ day (4/1/2009)

Conclusion:
- Rainfall may be a factor in the heavy congestion on the selected date.
Graphical display of incidents (Month/Year: 04/09) based on their types – Stall, Crash, Debris, Construction etc.
Incident Monthly report

- Graphical display of incidents based on their location – right shoulder, right lanes, left lanes etc.

![Graphical display of incidents based on their location](chart.png)
Graphical display of incidents based on the number of lanes that were affected by the incident.
The reports graphically display incident information for a particular month (i.e. April 2009):

- Types of incidents
- Locations of incidents
- Number of lanes affected by the incidents

Types of incidents:
- Breakdown of incidents by type (e.g. stall, crash)

Locations of incidents:
- Breakdown of incidents by location on the freeway (e.g. right shoulder, right lanes, etc.)

Number of lanes affected:
- Breakdown of incidents by number of lanes affected by the incident
- Display current (04/01/2009 5:15–5:30 PM) and history (over 5 days) of traffic congestion
Weather Graph for Systems Page

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Freight Mobility & Green Portal

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Under
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Introduction

- Publishing the useful work of Prof. Chris Monsere and Alex Bigazzi in Portal 2.0.
- Useful transportation plots available for people to go through and analyze.
- People can select date ranges and generate plots for the selected date ranges.
Truck Travel Times

Data of highway used:
201-I-84 WB Farewell Bend to Emigrant Hill

-- Credit to Prof. Chris Monsere
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Truck Travel Times

Truck travel times from XX to YY on Hwy ZZ for December 2008; extracted from WIM data

Long through truck travel times likely due to December 2008 ice and snow storms

Green: Truck likely stopped during link – not usable for estimating link travel time

Blue: Through Truck (no stops) – Good for estimating link travel time

-- Credit to Prof. Chris Monsere
CO2 Emissions

Interesting analysis
• High at peak hours 07:00 - 18:00
• Reaches max at early 07:00

-- Credit to Alex Bigazzi

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Interesting analysis

- Estimate 60,000 – 65,000 gallons of fuel used per month on I-5 NB

--- Credit to Alex Bigazzi

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Conclusion

- Plots created by other researchers can be incorporated into Portal 2.0 with limited effort.

Thank You