Kansas City
Ramp Metering
“A Success Story”
May 16, 2012
E. Jason Sims P.E.
(Kansas City Scout Center Manager)
• Advance Warning
  – ‘Ramp Metered When Flashing’ sign
  – Flashing yellow indication
  – Located on both sides of ramp
  – Clear Messages
  – Flashing beacons dark when not in operation

MAXIMIZING THE FLOW
• Loop Detection
  – Demand loops
  – Passage loop
  – Advance queue detection loop
  – AQ loop impacts meter rate
  – No backups onto arterial street
- ‘One Vehicle Per Green’ sign
- Two red/green indications
- ‘Stop Here on Red’ sign
- ‘One Vehicle Per Green’ sticker on bottom indication
- All located on left side of ramp
The Ramp Metering Review Board
Presentation Feedback Committee

MAXIMIZING THE FLOW
Project Team

• **Design**
  – CJW Transportation Consultants

• **Traffic Analysis**
  – George Butler and Associates, Inc.

• **Public Involvement**
  – Patti Banks Associates

Software Design—Delcan Inc.

**MAXIMIZING THE FLOW**
Project Map

- Ramp Meter Location

MAXIMIZING THE FLOW
Geometric Constraints
Corridor Geometrics
The Five Biggest Reasons Why Ramp Metering in KC is Successful.
#1—Preplanning, Forethought, Deployment Study

- Development of a Metro-wide Ramp Metering Deployment Study
- Ramp Loops and Controller Options installed in the initial deployment of Scout
- LOW COST
#2-Ramp Metering is a proven national traffic management strategy

- Minnesota Deployment Study
- Ramp Metering has been instrumented since the 1960’s
- Scout’s software was a hybrid of Caltrans software, which has the most ramp meters in the country
- Mentor for ramp metering
#3-Public Involvement Campaign
Along the Way…

- Develop clear, accurate, easy to understand information
- Establish consistent themes/speaking points
- Understand that the media is our biggest ally
- Recognize the campaign is a collaborative effort
## Reach Targeted Audiences

<table>
<thead>
<tr>
<th>Audience</th>
<th>Thematic Outreach Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical staff and local officials</td>
<td>Technical content with emphasis on facts, benefits, and experiences of other communities</td>
</tr>
<tr>
<td>Local public officials</td>
<td>Less technical content with accent on ramp metering benefits and safety</td>
</tr>
<tr>
<td>Law enforcement (highway patrol)</td>
<td>Focuses on ramp metering operation and enforcement</td>
</tr>
<tr>
<td>General public</td>
<td>Highly graphic, non-technical, and focuses on the need for ramp metering</td>
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</tbody>
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*MAXIMIZING THE FLOW*
#4—Corridor Adaptive Ramp Metering (CARMA)

- Not Pre-Timed
- All Ramps must work together
- Easily tunable

MAXIMIZING THE FLOW
#5-Execute, Be Transparent with Performance Measures
“Deliver the Results You Promised”
MoDOT & KDOT Promised

1. Reduce Rear End and Side Swipe Accidents
2. Travel Time on the Corridor would not increase but would stay the same or decrease with more volume.
3. No Ramp Meter will back up on to city streets.
4. No Motorist will wait more than 1 minute on any ramp.
5. Incidents will be cleared faster
MoDOT & KDOT Delivered

1. Reduce Rear End and Side Swipe Accidents - (Reduced by 64%)
2. Travel Time on the Corridor would not increase but would stay the same or decrease with more volume. (Most sections decreased in travel time or stay the same with 20% more volume going through the corridor)
3. No Ramp Meter will back up onto city streets. (Rare - 24 hr. repair policy)
4. No Motorist will wait more than 1 minute on any ramp. (Accomplished)
5. Incidents will be cleared faster (22 min - 16 min)
www.kcscout.net/ramp

metering

1 year study is published

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MAXIMIZING THE FLOW