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1. Agency Context
2. Study Background
3. Innovations Applied
4. N. First Street Project Results
5. Tasman Drive Project Results
6. Next Steps
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AGENCY CONTEXT

- Measure B
- BART extension
- Ridership declines
- Focus on fiscal responsibility and efficiency
  - Bus service restructuring
  - Ad hoc committee
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STUDY BACKGROUND

• 2010 LRT System Analysis Found Slow Light Rail System Speeds
  o Many at-grade intersections
  o Lots of track curves
  o Mix of different cities and agencies involved

• Focus Areas:
  o First Street
  o Tasman Drive
  o Downtown Transit Mall
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INNOVATIONS APPLIED

- Streetlight and Inrix Data Analysis
- Adaptive Pedestrian Timing
INNOVATIONS APPLIED

- Space Saving Gate Configurations
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N. FIRST STREET ISSUES & OPPORTUNITIES

• High cross street traffic volumes
• Traffic signal systems managed by City & County

• Large auto left turn volumes at some intersections conflict with rail
• Intensifying development environment
ORIGINAL PROJECT CONCEPT

- Increase maximum speeds from 35mph to 45mph requiring:
  - Full fencing on both sides
  - Four quadrant intersections gates and gates at cross street stop bar
  - Full signal preemption
**FINAL PROJECT CONCEPT**

- **Proposed Changes**
  - Provide traffic signal pre-emption w/o gates
  - Install pedestrian detection radar
  - Install LRT confirmation signals
COMPARISON OF ALTERNATIVES

North First Travel Times

- No Project: 0:03:17 Dwell, 0:07:56 Travel, 0:05:51 Signal Delay
- Major Improvements: 0:03:17 Dwell, 0:07:24 Travel, 0:07:24 Signal Delay
- With Improvements: 0:03:17 Dwell, 0:07:56 Travel, 0:00:45 Signal Delay

- ROW, Major Construction, Lane Reductions, High Cost
- Signal Timing Changes, Small Capital Improvements, Low Cost

38% Savings
30% Savings
PEDESTRIAN CROSSWALK DETECTION

• **How does it work?**
  - Greatly Improve Signal Priority
  - Extending crossing time based on passive in crosswalk detection is allowed
  - Not allowed to reduce actual timing, but may assume a faster walking speed for initial countdown time
  - Thermal or Radar detection
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TASMAN DR. ISSUES & OPPORTUNITIES

- Similar to N. First
- New LRT line to be added when BART station opens in Milpitas
- Adds trains to heavily used N. First / Tasman Drive intersection
- Tasman Drive is a Complete Streets focus corridor

Additional line to connect BART ext. to Silicon Valley
TASMAN DRIVE AT N. FIRST STREET LRT ROUTES

- Consider shifting to prevent buses from blocking protected intersection.
- Consider moving bus stop to prevent shuttles from blocking the protected intersection.
- Median noise to be removed and drive to be relocated to accommodate bike crossing. Reconstruction depends on LRT operating envelope.

Enhancements:
- Commuter Express service between Downtown San Jose and Santa Teresa
- Increase midday frequencies on Vasona line to 15 minutes

Legend:
- Rec Space (e.g., raised concrete medians, green infrastructure, or landscaping)
• Eliminate left turns
• Reduce cycle times
• Use space from elimination of lanes for bike & pedestrian improvements
TASMAN DRIVE AT N. FIRST STREET ANALYSIS

- Used Streetlight data to assess traffic diversion impacts
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NEXT STEPS

Downtown San Jose Transit Mall
THANK YOU FOR YOUR TIME AND INTEREST

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