28th Annual CTS Transportation Research Conference


November 2, 2017

Join the conversation!

#CTSResConf
What is innovation at Metro really about?

- Policy
- Resource Allocation
- Determination
“This is a really innovative idea but we can’t do it. It’s never been done before”
Can Metro increase customer satisfaction & attract new riders?

- A cross between a TNC-pooled service and a shuttle bus
- Meets increasing expectation for convenience
- Expands FMLM solutions
- Flexible and seamless
  - Integrated with transit system
  - Serves non-linear travel

On Demand | Dynamically Routed Data Driven | Corner to Corner
“Well sure we’d like to do that. But we don’t have time or money.”

“If we improve our service more people will use it and we can’t afford that.”
Strategic Plan: Key Trends & Issues

- Increased demand on an oversubscribed transportation system
- Changes to demographics and consumer needs
- Technological innovations are changing the mobility landscape
- Shortage of affordable housing relative to location of jobs and population growth
- Need to clarify positions and policies on single-occupant vehicles, highways and streets
Strategic Plan: Emerging Themes

> **Provide better connections and reliable choices**: Increase access and promote a cohesive, multimodal system.

> **Provide excellent customer-oriented service**: Improve customer experience along the entire journey.

> **Enhance communities and lives through mobility**: Support livable, vibrant, healthy and inclusive communities.

> **Promote regional collaboration to transform Los Angeles County and lead the nation**

> **Responsive, accountable, and trustworthy government**
Strategic Plan: Next Steps

> **November 2017:**
  - Draft vision, mission, values, and key initiatives
  - Develop marketing strategy

> **January 2018:** Collect input on draft plan

> **Early 2018:** Board adoption of final plan
“We could have thought of that on our own.”
Unsolicited Proposals: Background

In February 2016, **Metro opened its doors to the private sector, at an Industry Forum.**

> Pledged our commitment to pursuing agency-wide innovation
> Focus on partnerships-based approach to drive value
> Debuted the Unsolicited Proposal Policy
  > Any company can submit a proposal on any idea
  > Encourages the private sector to tell us what we should do differently
  > Declares intention to implement ideas with financial/technical merit
Unsolicited Proposals: Results

To date, OEI has received **81** proposals

- Reviewed **77** concepts
  - Advanced **22** for detailed review
  - Received **8** detailed “Phase II” proposals
    - Brought **11** to implementation phase
      - Engaged over **100** internal subject matter experts
      - Received **10** proposals for megaprojects or major financing initiatives
      - Other innovation pilots include data management, micro transit, mobile tolling, unmanned vehicles, and more.
Status of Unsolicited Proposals

- Total = 81
  - 61% Total Declined
  - 11% Total in process of Implementation
  - 3% Total Advanced to Proof of Concept (not Phase II)
  - 1% Total Implemented
  - 17% Total Active Phase II
  - 7% Total Active Phase I
Types of Unsolicited Proposals

Breakdown of UPs by Category

- Active Major Capital: 22%
- Active Tech Enabled Mobility Services: 34%
- Active Safety, Security and Asset Management: 22%
- Active Other: 22%

Total = 32

Includes UPs implemented in implementation. Does not include declined UPs.
OEI has advanced 3 megaprojects based on unsolicited proposals

- West Santa Ana Branch Transit Corridor
  - Will be a competitive P3

- Sepulveda Pass Transit Corridor
  - Will be a Project Development Agreement (PDA)

- Strategic Managed Lanes Network
  - Toll bond underwriting pool
Metro Planned Delivery

- Light rail transit split into two phases:
  - $3.7-$4.5 billion capital cost
  - Groundbreaking in 2022
  - Delivery in 2028 (Phase I) & 2041 (Phase II)

Unsolicited Proposals

- Kiewit and Skanska proposed different models for P3 delivery, both of which combine phases and provide substantial acceleration
- Sufficient evidence from financial analysis to indicate P3 is preferred delivery method
- Still need to solve cash flow challenges due to early operations and debt financing
- A Project Development Agreement did not offer substantial benefits because cash flow is the key issue
Metro Planned Delivery

> Managed lanes through Sepulveda pass with transit element
  > $9.8 billion capital cost
  > Groundbreaking in 2024
  > Delivery in 2026 (Managed Lanes), 2033 (transit element), & 2048 (transit to LAX)

Unsolicited Proposals

> Parsons and Cintra each submitted proposals suggesting design and delivery innovations that could speed delivery and reduce cost of transit element significantly

> Managed Lanes component was removed from P3 consideration due to lack of value to Metro, but revenue will still be allocated to this project

> Includes a Project Development Agreement (PDA) through environmental process before proceeding to a P3
Express Lanes System Financing

Metro Planned Delivery

- Tiered deployment of Express Lanes projects based on cap-ex needs on a single-project basis

Unsolicited Proposal

- Goldman Sachs suggested using excess revenues from existing Express Lanes Projects to finance cap-ex of new projects through a system-wide security with a single revenue pledge
  - Avoids use of Measure M sales tax/bond revenue, freeing funds for other projects
  - Reduces need for short term borrowing at higher rates to fund initial project costs
  - Requires us to develop a toll bond underwriting pool, among other steps
  - Is not a traditional P3, but could support/accommodate P3s with statutory authority
More than Major Capital Projects

“Innovation Pilots” currently under development or in implementation

- Micro Transit
- Improved Real Time Arrival Information
- Mobility on Demand
- Preventing Costly Unplanned Outages
- Mobile Tolling | Lower CapEx
- Smart Bike Racks
- V2i: Eco-Driving a Smoother Ride on the Orange Line
- Unmanned Vehicles for Visual Inspections of Assets
- Energy Savings
- Lighted Safety Vest
- Mobile Charging Vending Stations
“We shouldn’t give our customers more options – that will confuse them”
Can smartphones replace ExpressLanes infrastructure and improve system performance?

- Reduce need for gantries and transponders
- Increase ExpressLanes user base
- Reduce toll evasion and “leakage”
- Improve customer experience and convenience
- Reduce costs
Could more accurate ETAs when riders need them most improve customer confidence?

- Evidence that poor arrival info hurts rider retention
- Improved arrival prediction + better bus location data
- Prediction accuracy improves as bus nears
- **More certainty for customer, especially to avoid missed pick ups**
Could better bike access at stations allow more people to bike to Metro with fewer bikes on board trains?

- Stronger locks and CCTV
- Shared-use, free to customer
- Accessible via walk-up or app
  - Potential TAP integration
- Complements other bike planning initiatives
“This is a waste of time and money. That’s what Bob told me.”
Vehicle-to-Infrastructure Communication

Can better information help Bus Operators catch more green lights on the Orange Line?

> Faster, smoother ride for customers
> More service with fewer buses
> Reduced fuel consumption
> Software development planned for small scale pilot
Can Metro utilize drones to inspect more for less?

- Safer, more flexible operation
- Increased efficiency, cost effectiveness and data capture
- Broad range of additional use cases
“Why would we help a competitor?”
Mobility on Demand

Partner with a transportation network company to provide better and more equitable access to 3 pilot transit stations.

TNC TO BE NAMED LATER
Creating a Culture of Innovation

The Office of Extraordinary Innovation brings Metro staff together to solve problems and drive innovative thinking...

**Systems Thinking**
Matrix-based structure promotes connections & systems over silos (policy)

**Market Exposure**
Exposes Metro staff to a wide range of ideas, approaches, and products (resource allocation)

**Problem Solving**
Assessing fit for Metro encourages problem solving over obstacle identification (determination)

**Critical Thinking**
Novel concepts that don’t fit with existing protocols demand critical thinking (determination)

**Solutions Focus**
Shift from process-focused “Can we do this?” to solutions-focused “Would it add value?” (resource allocation)
THANK YOU
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