

# ***Road Tolling – Past, Present & Future***



**Prepared for:  
Riverside/San Bernardino  
ITE Meeting  
January 21, 2014**

***Jesse Glazer***  
***ITS/Operations Engineer***  
***FHWA Cal-South***

# ***Presentation Topics:***

- **Evolution**
- **Purpose**
- **Concepts**
- **Elements**
- **Challenges for TE's**
- **Experiences**
- **Resources**
- **The Future...**

# ***In the Beginning, there were HOV lanes:***

**1976 - El Monte Busway.**



**(added lane)**

**1976 – S.M. Diamond Lane**



**(*“take-a-lane”*)**

**Then decade of “quiet” (retrenchment?)...**

# *In 1990's, birth of "HOT" lanes*

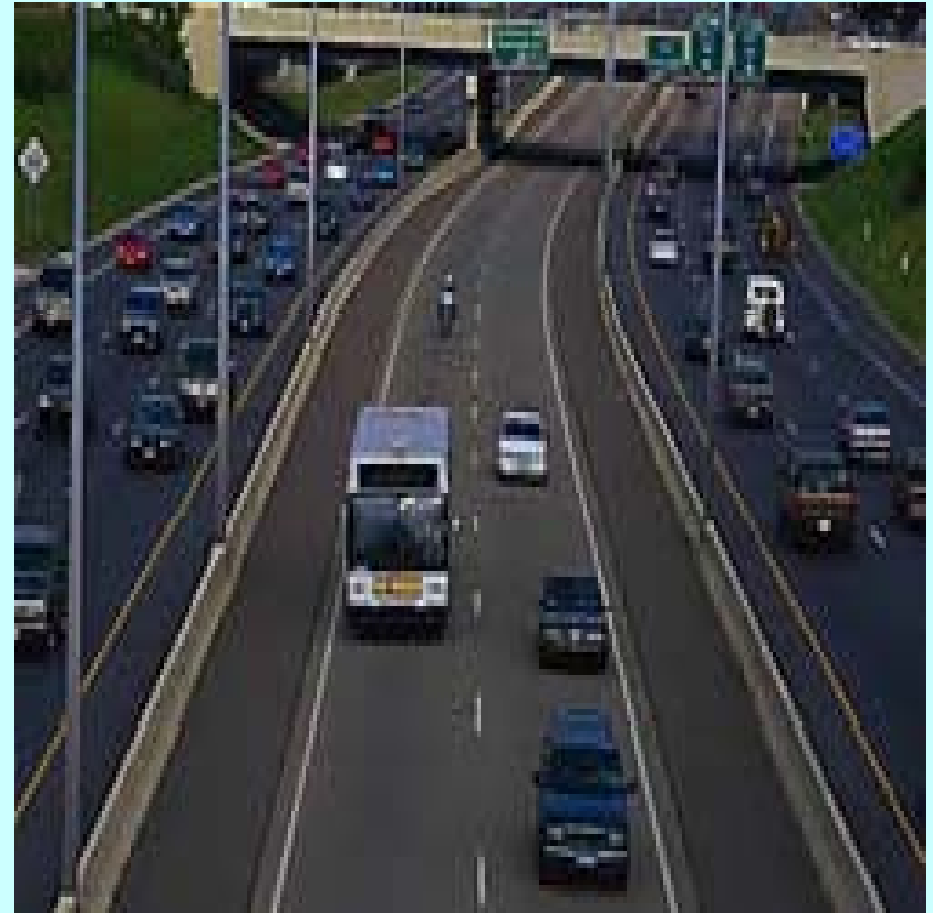
**SR-91 (OC)**



**(2 new lanes x 2)**

**(Carpools free; SOVs pay toll.)**

**I-15 (SD)**



**(2 new lanes, reversible)**

# ***Purpose of HOT Lanes...***

**Sell unused capacity to:**

- **Improve corridor performance**
  - Increase throughput (veh. or person?)
  - Increase operating speeds (HOT + GP)
- **Generate revenue**
  - Major on SR-91
  - Modest on I-15-SD

# ***Concept of HOT Lanes...***

**Dedicated Lane(s) in freeway median:**

- **Added lane, with access**
- **Converted HOV lane**

**Price + eligibility controls demand**

- **SOV: Fixed, Variable, Dynamic**
- **HOV: 2+ or 3+ (major difference)**

**Operations: 24/7 or Peak Period**

# ***Key Elements of HOT Lanes...***

## **Hardware & Software**

- **Toll Collection – gantries, transponders**
- **Signage – price, eligibility, hours, etc.**
- **Surveillance – cameras, detectors, etc.**

## **“Peopleware”**

- **Traffic Management – incidents, events**
- **Enforcement – accounts, occupancy**
- **Business Mgmt. – accounts, transponders**
- **Outreach – users, media, government, etc.**

# ***Challenges for Local Traffic Engrs.***

## **Interfaces with Surface Streets:**





# ***Challenges for Local Traffic Engrs.***

**Interfaces with Surface Streets:**



# ***National Experience with HOT Lanes***

## **1990's = Pioneers**

- **SR91, I-15 OC, Katy (Houston), ...**

## **2000's = Early Adopters**

- **Mpls., Miami, Atlanta, Houston, L.A., etc.**

## **2010's = Widespread Adoption**

- **Nationwide: est. 3-5 dozen new projects**
- **Statewide: 1-2 dozen**
- **SoCal: 8-12 new projects**
- **I.E.: SR91, I-15 Riv, I-15 SB, I-10 SB**

# ***Resources for Learning More...***

## **FHWA**

- **Publications: Priced Managed Lanes Guide, etc.**
- **Webinars: (see T3 Archive)**

## **TRB**

- **TRR, Papers, NCHRP Reports/Syntheses, etc.**
- **Committees (M.L., C.P., Fwy Ops, ITS, etc.)**
- **TRIS (on-line library)**

## **ITE**

- **ITE Journal articles**
- **Mgmt/Ops/ITS Council**

# ***The Future?***



# ***The Future: Transportation Pricing***



- **More HOT lanes**
- **A few toll roads?**
- **Parking Pricing**
- **Congestion Pricing**
- **Cordon Pricing?**
- **VMT Pricing**
- **or ... ?**

***Back to the Present...***

***< The End >***