

## IBEC Traffic Mitigation Measure Cost Estimates

### Notes

#### **Category 1: ITS Improvements [Not covered in MMs, but should be added]**

- Total ITS costs for Stadium Alternative Mitigation Measure program are currently: \$4,857,500 (Fiber Optic / CMS) + \$3,536,700 (Traffic Signals) + \$251,826 (3% Mobilization) + \$419,710 (Traffic Control) + \$1,813,147 (10% Contingency) + \$1,400,000 (Design Cost) = \$12,278,883. Figures based on Kimley Horn estimates provided by P. Puglese on 7/24/19.
- 28 intersections need Traffic Signal upgrades. Only 24 intersections need Fiber Optic / CMS. Other costs apply equally to all 28 intersections.
- **Average total cost per intersection as part of the Stadium Alternative Mitigation Measure program is \$438,531.54 (\$12,278,883/28)**
- 16 intersections mentioned in IBEC MMs. Most were flagged for physical lane improvements, but that indicates they are impacted intersections that could benefit from ITS upgrades (if available).
  - Century Boulevard/La Cienega Boulevard
  - Century Boulevard/Hawthorne Boulevard/La Brea
  - Westbound 104th Street approach to Yukon Avenue
  - I-105 off-ramp approach to Prairie Avenue
  - I-405 NB Off-Ramp at Century Boulevard
  - Prairie Avenue and Pincay Drive
  - Prairie Avenue and Century Boulevard
  - I-105 westbound off-ramp at Crenshaw Boulevard
  - Crenshaw Boulevard and 120th Street
  - La Cienega Boulevard at Centinela Avenue
  - La Brea Avenue at Centinela Avenue
  - Prairie Avenue at 104th Street
  - Felton Avenue at Century Boulevard
  - 109th Street and on Flower Street
  - Prairie Avenue and Manchester Boulevard
  - Prairie Avenue and Arbor Vitae

#### **Category 2: Reversible Lane Implementation**

- **\$13,771,270** cost to implement 1 reversible lane on Prairie Avenue stretching from Imperial Highway (to the south) to Florence Avenue (to the north)

#### **Category 3: Traffic Control Officer Staffing**

- Estimated TCO staffing numbers for L.A. Stadium are currently at 79 TCOs. This does include supervisors, etc. If you do a pro rata reduction of this number based on IBEC's respective capacity (i.e. 70,000 people vs. 18,000 people), there is a need for 20 TCOs to service IBEC.
- Number of staffing hours is uncertain, but will estimate 5 hours per event (which is in line with when buses will be coming in).
- LADOT cost is \$75 / hour, per P. Puglese on 7/26/19.

- = \$7,500 per event (20 x 5 x \$75)
- = \$367,500 per year to staff the 49 NBA games

### Category 3: Shuttle Program for Public Transit Connection [MM 3.14-2b (b)]

#### Demand

- Shuttle Hours Demand (Per IBEC Mitigation Measure estimates (MM 3.14-2b, (b))
  - 27 shuttles w/ 45 person capacity
  - Buses running for 2.5 hour before game (continues 30 min into game) + 1 hour intervening and 1.5 at end of game (starts 30 min before game end). 5 hour
  - = 5 operating hours per bus
  - = **135 bus operating hours per game (5 x 27)**
- **Schedule (Per IBEC Project Description, Table 2-3):**
  - NBA Only: 49 games
  - **Big Event Only (10,000+ People): 62 events (49 NBA + 13 other large events)**
  - All Events: 243 events
- **Total Demand per Year:**
  - NBA Only: 6,615 operating hours per year (49 x 135)
  - **Big Event Only (10,000+ attendees): 8,370 operating hours per year (63 x 135)**
  - All Events: 32,805 operating hours per year (243 x 135)

#### Costs

- **Operating costs:**
  - Shofur: \$108 / hour
  - GTrans: \$109-110 / hour (reduced w/ some subsidies) or \$150 / hour (not reduced w subsidies) → \$130 / hour average
  - BBB: \$105 / hour BBB (status of subsidies unknown)
  - **Average: \$114.30 / hour**
- Capital Cost: \$800k / shuttle GTrans (for low/no emissions)
- **Overhead**
  - **GTrans: 10% of operating expenses**
  - **LAZ: \$11k / event** (10k / event mgmt and \$500 / event / location marketing, so \$1,000 / event assuming 2 locations low estimate; used only these 2 factors since other overhead costs relate more purely to personnel staffing & ops of parking lots and transit facility)

#### Costs Per Year

- **Operations:**
  - Per Year w NBA Only: 6,615 x \$114.30 = \$756,094.50 / year
  - **Per Year w Big Event Only (10,000+ attendees) = 8,370 x \$114.30 = \$945,691 / year**
  - Per Year w All Events = 32,805 x \$114.3 = \$3,749,611.50 / year
  - Per Event Operations: 135 x \$114.30 = \$15,430 / event
- Capital: TBD re: whether shuttles would be acquired; likely N/A
- **Overhead:**
  - Per Year w NBA Only: \$75,609 (GTrans) vs. \$539,000 (LAZ)

- **Per Year w Big Event Only (10,000+ attendees) = \$94,569 (GTrans) vs. \$682,000 (LAZ) –  
*Electing to use GTrans figure since much more conservative***
- Per Year w All Events = \$374,961 (GTrans) vs. \$2,673,000 (LAZ)
- **Total Cost: \$1,040,260 / year**
- Note: Total cost estimate is expense side alone and does not take into account potential revenue that could be generated. Any revenue obtained by collecting shuttle fare would offset these costs.

## Category 2: Remote Park-and-Ride Program [MM 3.14-2b (f)]

### Demand

- Shuttle Hours Demand (Per IBEC Mitigation Measure estimates (MM 3.14-2b, (f))
  - Shuttles w/ 45 person capacity to carry 1,980 attendees from various Park-and-Ride locations. Difficult to estimate # of buses and # of operating hours since locations are unknown.
  - Example #1: GTrans operations at Southwest College (2.8 miles away) would carry 1,800 passengers per game using 20 buses with service starting 3 hours pre-game and 2 hours post-game, which they said would require 100 service hours (5 hours / bus). **\*\* Note: GTrans' buses carry 50 people.**
  - Example #2: LAZ operations at Pacific Concourse (3.7 miles away) would carry 2,000 passengers per game using 10 buses with service starting 2.5 hours pre-game and 2 hours post-game, which they said would require approximately 71.5 service hours (7.5 / bus). **\*\*Note: LAZ / Shofur buses carry 50 people.**
  - **Average: 15 buses to service this amount of attendees.** **\*\* Note: This could be a low estimate since based on 50-passenger bus numbers and not 45-passenger bus numbers.**
  - Assuming buses running for 2.5 hour before game (continues 30 min into game) + 1 hour intervening and 1.5 at end of game (starts 30 min before game end) (i.e. same assumptions as for transit connection shuttles)
    - = 5 operating hours per bus
    - = **75 bus operating hours per game (5 x 15)**
- Schedule (Per IBEC Project Description, Table 2-3):
  - NBA Only: 49 games
  - **Big Event Only (10,000 + People): 62 events (49 NBA + 13 other large events)**
  - All Events: 243 events
- Total Demand per Year:
  - NBA Only: 3,675 operating hours per year (75 x 49)
  - **Big Event Only (10,000+ attendees): 4,650 operating hours per year (75 x 62)**
  - All Events: 18,225 operating hours per year (75 x 243)

### Costs (Buses)

- **Operating costs:**
  - **Average: \$114.30 / hour**
- Capital Cost: \$800k / shuttle GTrans (for low/no emissions)
- **Overhead:**
  - **GTrans: 10% of operating expenses**
  - **LAZ: \$11k / event** (10k / event mgmt and \$500 / event / location marketing, so \$1,000 / event assuming 2 locations low estimate; used only these 2 factors since other overhead costs relate more purely to personnel staffing & ops of parking lots and transit facility)

### Costs (Parking Lots)

- Example #1: LAZ operations at Pacific Concourse (3.7 mi away) with 2,000 parkers has \$5,941 in OpEx per event (after excluding all bus and marketing costs) = \$2.97 / parker
- Example #2: LAZ operating at Civic Center Garage (1 mi away) with 1,163 parkers has \$2,027 in OpEx per event (after excluding all bus and marketing costs) = \$1.74 / parker

- Example #3: LAZ operations at 5200 W Century (2 mi away) with 2,625 parkers has \$6,941 in OpEx per event (after excluding all bus and marketing costs) = \$2.64 / parker
- **Average: \$2.45 / parker / event**
- **= \$4,851 / event (\$2.45 x 1,980)**

#### Costs Per Year:

- Operations (Buses):
  - Per Year w NBA Only:  $3,675 \times \$114.30 = \$420,052.50$  / year
  - **Per Year w Big Event Only (10,000+ attendees) =  $4,650 \times \$114.30 = \$531,495$  / year**
  - Per Year w All Events =  $18,225 \times \$114.3 = \$2,083,117$  / year
  - Per Event Operations:  $75 \times \$114.30 = \$8,572.50$  / event
- Capital: TBD re: whether shuttles would be acquired; likely N/A
- Overhead (Buses):
  - Per Year w NBA Only: \$42,005 (GTrans) vs. \$539,000 (LAZ)
  - **Per Year w Big Event Only (10,000+ attendees) = \$53,150 (GTrans) vs. \$682,000 (LAZ) – Electing to use GTrans figure since much more conservative**
  - Per Year w All Events = \$208,312 (GTrans) vs. \$2,673,000 (LAZ)
- Operations (Parking Lots):
  - Per Year w NBA Only:  $49 \times \$4,851 = \$237,699$  / year
  - **Per Year w Big Event Only (10,000+ attendees) =  $62 \times \$4,851 = \$300,762$  / year**
  - Per Year w All Events =  $243 \times \$4,851 = \$1,178,793$  / year
  - Per Event Operations: \$4,851
- **Total Cost: \$885,407 / year**
- Note: Total cost estimate is expense side alone and does not take into account potential revenue that could be generated. Any revenue obtained by collecting shuttle fare would offset these costs.