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))
  o 27 shuttles w/ 45 person capacity
  o 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
  o = 5 operating hours per bus
  o = 135 bus operating hours per game (5 x 27)
• Schedule (Per IBEC Project Description, Table 2-3):
  o NBA Only: 49 games
  o Big Event Only (10,000+ People): 62 events (49 NBA + 13 other large events
  o All Events: 243 events
• Total Demand per Year:
  o NBA Only: 6,615 operating hours per year (49 x 135)
  o Big Event Only (10,000+ attendees): 8,370 operating hours per year (63 x 135)
  o All Events: 32,805 operating hours per year (243 x 135)

Costs

• Operating costs:
  o Shofur: $108 / hour
  o GTrans: $109-110 / hour (reduced w/ some subsidies) or $150 / hour (not reduced w subsidies) \(\rightarrow\) $130 / hour average
  o BBB: $105 / hour BBB (status of subsidies unknown)
  o Average: $114.30 / hour
• Capital Cost: $800k / shuttle GTrans (for low/no emissions)
• Overhead
  o GTrans: 10% of operating expenses
  o 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:
  o Per Year w NBA Only: 6,615 x $114.30 = $756,094.50 / year
  o Per Year w Big Event Only (10,000+ attendees): 8,370 x $114.30 = $945,691 / year
  o Per Year w All Events = 32,805 x $114.3 = $3,749,611.50 / year
  o Per Event Operations: 135 x $114.30 = $15,430 / event
• Capital: TBD re: whether shuttles would be acquired; likely N/A
• Overhead:
  o 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
- Exampe #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):
  o Per Year w NBA Only: 3,675 x $114.30 = $420,052.50 / year
  o **Per Year w Big Event Only (10,000+ attendees) = 4,650 x $114.30 = $531,495 / year**
  o Per Year w All Events = 18,225 x $114.3 = $2,083,117 / year
  o Per Event Operations: 75 x $114.30 = $8,572.50 / event

• Capital: TBD re: whether shuttles would be acquired; likely N/A

• Overhead (Buses):
  o Per Year w NBA Only: $42,005 (GTrans) vs. $539,000 (LAZ)
  o **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
  o Per Year w All Events = $208,312 (GTrans) vs. $2,673,000 (LAZ)

• Operations (Parking Lots):
  o Per Year w NBA Only: 49 x $4,851 = $237,699 / year
  o **Per Year w Big Event Only (10,000+ attendees) = 62 x $4,851 = $300,762 / year**
  o Per Year w All Events = 243 x $4,851 = $1,178,793 / year
  o 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.