Item #2

APPROVAL OF MINUTES

Item #3

TRAC GOALS, FRAMEWORK & AGENDA REVIEW
COMMITTEE GOALS

• Learn about Southern Nevada’s mobility challenges, new developments and opportunities.

• Learn about smart communities, emerging technologies and how these efforts can impact and improve mobility, accessibility and safety in Southern Nevada.

• Obtain input and feedback and make recommendations on how to best address and prioritize mobility solutions.

MEETING FRAMEWORK

• **Meeting 8 – January 31, 2019** – Transit industry update; LVCVA update

• **February to June 2019** – Innovation Day at the Legislature; Legislative session

• **Meeting 9 – June 2019** – Legislative session recap; TRAC next steps
AGENDA REVIEW

- Major Project Updates
- Resort Corridor Update
- Federal Update
- Transit Financial Overview
- 2019 Legislative Agenda
- Upcoming Events

Item #4

MAJOR PROJECT UPDATES
Las Vegas RTC  
December 6, 2018

Design Overview
Construction Overview
Transportation & Parking
An Urban Rather Than Suburban Model …

<table>
<thead>
<tr>
<th>Stadium City</th>
<th>Number of Seats</th>
<th>On-Site Parking Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Las Vegas</td>
<td>65,000</td>
<td>2,375</td>
</tr>
<tr>
<td>Atlanta</td>
<td>75,000</td>
<td>2,382</td>
</tr>
<tr>
<td>Baltimore</td>
<td>71,008</td>
<td>1,890</td>
</tr>
<tr>
<td>Cincinnati</td>
<td>65,515</td>
<td>2,404</td>
</tr>
<tr>
<td>Cleveland</td>
<td>67,895</td>
<td>1,164</td>
</tr>
<tr>
<td>Denver</td>
<td>76,125</td>
<td>6,500</td>
</tr>
<tr>
<td>Minneapolis</td>
<td>66,665</td>
<td>273</td>
</tr>
<tr>
<td>Seattle</td>
<td>69,000</td>
<td>2,726</td>
</tr>
</tbody>
</table>

- 20,000 pedestrians on Hacienda promenade
- Ride Share & Taxi – at conception, not a retrofit
- Hotel limo service
- Dispersal of parking – reduce Stadium congestion
  - Onsite Stadium lots operated by StadCo
  - Remote Lots operated by StadCo
  - Independent business lots organized and coordinated by StadCo
  - Park & Ride lots pushed by StadCo
- The plan is not intended to be static – will be intentionally flexible and change prior to opening and throughout the decades to reflect evolving consumer behavior and emerging transportation options
- RTC will be fundamental in executing the plan and providing a first-class day of event experience
Las Vegas Monorail Company owns the system

- Public benefit corporations provide services typically provided by government entities – transit services
- Private not-for-profit 501(c)4
- No shareholders
The Monorail system carries tens of thousands daily, but the biggest mobility impact is during major events.

- CES – 165,000
- SEMA – 160,000
- NAB – 130,000
- ConExpo – 130,000
- Marathon Weekend – 100,000+ rides
- New Year’s Eve – 50,000+ rides
- Holiday weekends and special events

**System Benefits**

- 4 miles long, 7 stations
- Capacity – 224 per train, up to 130,000/day
- Speed – up to 50 mph, end to end service in 14 minutes
- Fully Automated Train Control System
- Elevated – preserves roadway capacity while increasing mobility
- Reduces annual vehicle miles traveled (VMT) – 2.2m in 2017
- Reduces emissions from vehicle trips – 28 tons in 2017
- Carries approx. 5 million riders per year
DEVELOPMENT UPDATE

PROJECT DESCRIPTION

- Approx 1.14 miles new guideway
- 1 new station at Mandalay Bay
- Ped access connector between Mandalay Bay and Luxor hotels
- 1 new station on Sands Avenue
- Ped access connector between MSG Sphere, Sands Expo (and Venetian/Palazzo), as well as new Wynn convention facility via connected bridges
- Upgrade/modifications to Automated Train Control
With stations at Mandalay Bay and Sands Expo & Convention Center, the Monorail will be directly connected to:

- 42,000 hotel rooms
- 10M square ft. of convention & meeting space
- 3 arenas, 1 stadium
- Over 600 retail, dining, nightlife & bar, show/concert/event venues, unique attractions and experiences
DEVELOPMENT TIMING

Completion of:
• Entitlements
• Airport Approvals
• Easement Agreements

= FINANCING

QUESTIONS?
Item #5

RESORT CORRIDOR UPDATE

RESORT CORRIDOR FEASIBILITY STUDY
OBJECTIVE: Consider feasibility of a high-capacity transit system to improve access to, from and within the Resort Corridor

CRITICAL LINKS:
- Airport to the Strip
- Movement along the Strip
- Strip to downtown Las Vegas

Resort Corridor Feasibility Study
Stated Preference Survey

How satisfied are you with getting around Las Vegas?

- 43% Very Satisfactory
- 51% Satisfactory
- 3% Unsatisfactory
- <1% Very Unsatisfactory
- 2% Don’t know
While in Las Vegas, which types of transportation did you choose?*

* Multiple Choices Allowed

- Public Bus: 11% (11% for Convention Delegates, 11% for Leisure Visitors)
- Monorail: 16% (16% for Convention Delegates, 16% for Leisure Visitors)
- Rideshare: 50% (50% for Convention Delegates, 50% for Leisure Visitors)
- Taxi: 37% (33% for Convention Delegates, 29% for Leisure Visitors)
- Personal/Rental Car: 36% (41% for Convention Delegates, 36% for Leisure Visitors)

Resort Corridor Feasibility Study

Estimated Daily Resort Corridor Visitor Trips

Projected Daily Trips with both Origin and Destination within the Resort Corridor

<table>
<thead>
<tr>
<th>Year</th>
<th>Visitor Volume</th>
<th>Daily Visitor Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>44 M</td>
<td>492,000</td>
</tr>
<tr>
<td>2040</td>
<td>56 M</td>
<td>618,000</td>
</tr>
<tr>
<td>Change</td>
<td>+26%</td>
<td>+26%</td>
</tr>
</tbody>
</table>
Resort Corridor Feasibility Study

Stated Preference Survey

Modes of Travel to/from Airport

- Ride Share: 34%
- Taxi: 26%
- Limo: 5%
- Paid Airport Shuttle: 11%
- Public Bus: 4%
- Personal Car: <1%
- Other: 3%
- Rental Car: 18%

Modes of Travel along the Strip

- Walk: 12%
- Other: 2%
- Walk: 12%
- Other: 2%
- Ride Share: 17%
- Taxi: 6%
- Shuttle / Bus: 3%
- Monorail: 4%
- Public Bus: 7%
- Personal Car: 33%
- Rental Car: 16%
Resort Corridor Feasibility Study

Stated Preference Survey

Modes of Travel between Strip and Downtown

- Ride Share: 19%
- Taxi: 9%
- Public Bus: 17%
- Monorail: 1%
- Personal Car: 27%
- Rental Car: 24%
- Other: 3%

Transportation Modes Chosen by Respondents

<table>
<thead>
<tr>
<th>Reference Trip</th>
<th>Mode Chosen</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Light Rail</td>
</tr>
<tr>
<td>All Trips</td>
<td>46%</td>
</tr>
<tr>
<td>Between Airport and Resort Corridor</td>
<td>52%</td>
</tr>
<tr>
<td>Between Strip and Downtown</td>
<td>37%</td>
</tr>
<tr>
<td>Along the Strip</td>
<td>45%</td>
</tr>
</tbody>
</table>
Fare Sensitivity

Stated Preference Survey

Percentage of Visitors traveling between the Airport and the Strip and Downtown

Fare

Daily Ridership

Bus

Light Rail

Fare Sensitivity

Stated Preference Survey

Percentage of Visitors traveling between the Strip and Downtown

Fare

Daily Ridership

Louis Berger
Resort Corridor Feasibility Study

Transit Technologies

Criteria Considered in Reviewing Transit Technologies

• Visitor Experience
• Value
• Constructability / Disruption
• Speed
• Reliability
• Accessibility
• Convenience
• Potential Ridership
• Roadway Capacity in terms of people throughput

Resort Corridor Feasibility Study

Transit Technologies

• Deuce
Resort Corridor Feasibility Study

Transit Technologies

- Deuce
- Limited Stop Bus Service (SDX)

Resort Corridor Feasibility Study

Transit Technologies

- Deuce
- Limited Stop Bus Service (SDX)
- Bus Rapid Transit (BRT)
Resort Corridor Feasibility Study

Transit Technologies

- Deuce
- Limited Stop Bus Service (SDX)
- Bus Rapid Transit (BRT)
- Modern Streetcar

Resort Corridor Feasibility Study

Transit Technologies

- Deuce
- Limited Stop Bus Service (SDX)
- Bus Rapid Transit (BRT)
- Modern Streetcar
- European Tram
Resort Corridor Feasibility Study
Transit Technologies

- Deuce
- Limited Stop Bus Service (SDX)
- Bus Rapid Transit (BRT)
- Modern Streetcar
- European Tram
- **People Mover**

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Resort Corridor Feasibility Study
Transit Technologies

- Deuce
- Limited Stop Bus Service (SDX)
- Bus Rapid Transit (BRT)
- Modern Streetcar
- European Tram
- People Mover
- **Monorail / Elevated Transit**
Resort Corridor Feasibility Study

Transit Technologies

- Deuce
- Limited Stop Bus Service (SDX)
- Bus Rapid Transit (BRT)
- Modern Streetcar
- European Tram
- People Mover
- Monorail / Elevated Transit
- **Light Rail**

Resort Corridor Feasibility Study

Transit Technologies

- Deuce
- Limited Stop Bus Service (SDX)
- Bus Rapid Transit (BRT)
- Modern Streetcar
- European Tram
- People Mover
- Monorail / Elevated Transit
- Light Rail
- **Gondola**
Resort Corridor Feasibility Study

Transit Technologies

- **Deuce**
- **Limited Stop Bus Service (SDX)**
- Bus Rapid Transit (BRT)
- Modern Streetcar
- **European Tram**
- People Mover
- Monorail / Elevated Transit
- Light Rail
- Gondola

---

Resort Corridor Feasibility Study

Technologies included in Alternatives Analysis

**Deuce and SDX**

**Pros**
- Operates in mixed flow or exclusive lanes
- Deuce popular with visitors
- SDX faster, with limited stop service
- Frequent stops
- Maneuverable in heavy traffic
- No construction required

**Cons**
- Lower capacity (88 to 108 passengers)
- Slow boarding (Deuce only)
- Slowed by street congestion

**European Tram**

**Pros**
- Operates in mixed flow or exclusive lanes
- Positive visitor response
- Operates without wires
- Faster boarding
- Higher capacity (200 to 220 passengers)

**Cons**
- High capital costs
- Requires construction of a track
- Slowed by street congestion
- Not maneuverable around traffic
Resort Corridor Feasibility Study

Existing Deuce and SDX (persons per hour)

Present Peak Period Capacity:

<table>
<thead>
<tr>
<th>Component</th>
<th>Capacity (persons per hour per direction)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>7,100</td>
</tr>
<tr>
<td>Automobiles</td>
<td>6,050</td>
</tr>
<tr>
<td>Deuce and SDX Bus</td>
<td>1,050</td>
</tr>
</tbody>
</table>

Alternative 1: Existing Deuce and SDX

Deuce - 9.5 miles
SDX - 11 miles

Estimated Total Average Daily Boardings

Deuce + SDX
20,300 + 9,900 = 30,200 (2020)
27,200 + 13,200 = 40,400 (2040)
Resort Corridor Feasibility Study

Alternative 2: Enhanced Bus (Deuce and Airport SDX)

Deuce
9.5 miles

Airport SDX
9.1 miles

Estimated Total Average Daily Boardings

<table>
<thead>
<tr>
<th>Mode</th>
<th>2020 Boardings</th>
<th>2040 Boardings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deuce</td>
<td>30,200</td>
<td>40,400</td>
</tr>
<tr>
<td>Airport SDX</td>
<td>10,200</td>
<td>10,700</td>
</tr>
<tr>
<td>Combined</td>
<td>40,400</td>
<td>51,100</td>
</tr>
</tbody>
</table>

Alternative 3: European Tram

European Tram
6.5 miles

Estimated Total Average Daily Boardings

<table>
<thead>
<tr>
<th>Mode</th>
<th>2020 Boardings</th>
<th>2040 Boardings</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Tram</td>
<td>33,000</td>
<td>44,300</td>
</tr>
</tbody>
</table>
Resort Corridor Feasibility Study

Alternative 4: European Tram (Strip and Airport)

European Tram
8.2 miles

Estimated Total Average Daily Boardings
Strip Tram + Airport Tram
33,000 + 18,100 = 51,100 (2020)
44,300 + 21,700 = 66,000 (2040)

Alternative 5: European Tram and Airport SDX

European Tram
6.5 miles

Airport SDX
9.1 miles

Estimated Total Average Daily Boardings
European Tram + Airport SDX
33,000 + 10,200 = 43,200 (2020)
44,300 + 10,700 = 55,000 (2040)
Resort Corridor Feasibility Study

Alternative 6: Deuce and Airport European Tram

Estimated Total Average Daily Boardings

Deuce + Airport European Tram
30,200 + 18,100 = 48,300 (2020)
40,400 + 21,700 = 62,100 (2040)

Comparison of Alternatives

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Estimated Year 2040 Total Daily Ridership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative 1</td>
<td>41,900</td>
</tr>
<tr>
<td>Alternative 2</td>
<td>54,100</td>
</tr>
<tr>
<td>Alternative 3</td>
<td>47,500</td>
</tr>
<tr>
<td>Alternative 4</td>
<td>69,200</td>
</tr>
<tr>
<td>Alternative 5</td>
<td>59,700</td>
</tr>
<tr>
<td>Alternative 6</td>
<td>63,600</td>
</tr>
</tbody>
</table>
### Comparison of Alternatives

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Estimated Year 2040 Total Daily Ridership</th>
<th>Net Operating Surplus (Deficit)</th>
<th>Capital Deficit Requiring Additional Revenue Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative 1</td>
<td>41,900</td>
<td>$31,740,000</td>
<td>($69,715,000)</td>
</tr>
<tr>
<td>Alternative 2</td>
<td>54,100</td>
<td>$406,114,000</td>
<td>$215,203,000</td>
</tr>
<tr>
<td>Alternative 3</td>
<td>47,500</td>
<td>($74,014,000)</td>
<td>($1,034,568,000)</td>
</tr>
<tr>
<td>Alternative 4</td>
<td>69,200</td>
<td>$580,436,000</td>
<td>($618,591,000)</td>
</tr>
<tr>
<td>Alternative 5</td>
<td>59,700</td>
<td>$202,549,000</td>
<td>($853,907,000)</td>
</tr>
<tr>
<td>Alternative 6</td>
<td>63,600</td>
<td>$549,777,000</td>
<td>($427,779,000)</td>
</tr>
</tbody>
</table>

### Resort Corridor Feasibility Study

#### Transit Stop Improvements

**RTC**
- Improve wayfinding / customer experience
- Speed boarding process
  - Off board ticketing
  - Level boarding
  - Reduce pull-outs

**Private Properties / Public Rights of Way**
- Improve guest awareness of transit options
- Longer transit stops for multiple vehicles and/or longer vehicles
- Enlarge and integrate pedestrian waiting areas
- Reduce right-lane conflicts
  - Right turn pockets
  - Pedestrian grade separations
Next Steps

• Present draft recommendations to stakeholders – seek consensus
• Incorporate results into overall On Board plan
• Pursue recommendations
  ▪ Near-term
  ▪ Long-term
Item #9 - Upcoming Events

Consumer Telematics Show 2019
Smart Cities: Opportunities or Threat? Building Tech and Partnership for New Mobility
Are smart, low-emission cities the end of the automotive or are they an opportunity for new products, services and business models?

WHEN: Monday, Jan. 7, 2019
4:10 – 4:40 p.m.

WHERE: Planet Hollywood

CES Panel: Government vs. OEM Development
How are government and the auto industry working together to make automated vehicles a reality? What about the insurance, legal and public relations battles of autonomous and automated accidents? Who’s responsible? How do we prevent fatalities? What needs to happen and why?

WHEN: Tuesday, Jan. 8
2:15 – 3:15 p.m.

WHERE: Las Vegas Convention Center, North Hall, N262
Item #9 - Upcoming Events

TRAC Meeting #7 | Thursday, Jan. 31 | 2:30 – 5 p.m.

LVCVA Update
Steve Hill

Jacksonville Transportation Authority
Nat Ford

Capital Metro
Randy Clarke

OPEN DISCUSSION

Item #10

OPEN DISCUSSION
Item #11

FINAL CITIZENS PARTICIPATION