TRAC

TRANSPORTATION
RESOURCE ADVISORY
COMMITTEE & COMMUNITY
COLLABORATION

December 6, 2018

TRAC

Item #1

CITIZENS PARTICIPATION

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

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Design Overview

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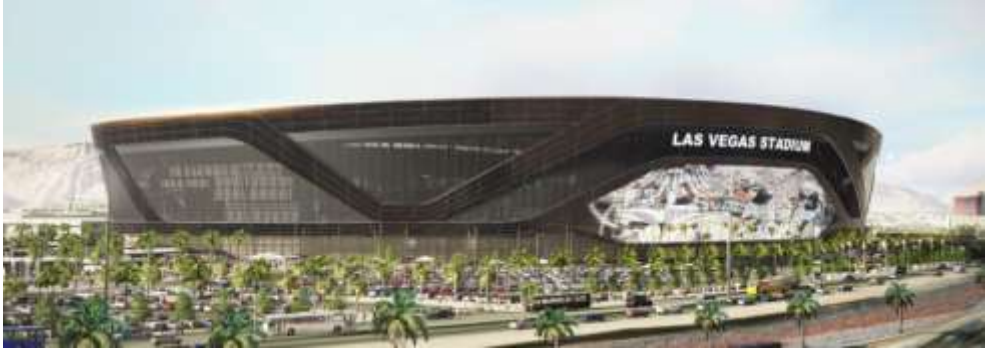

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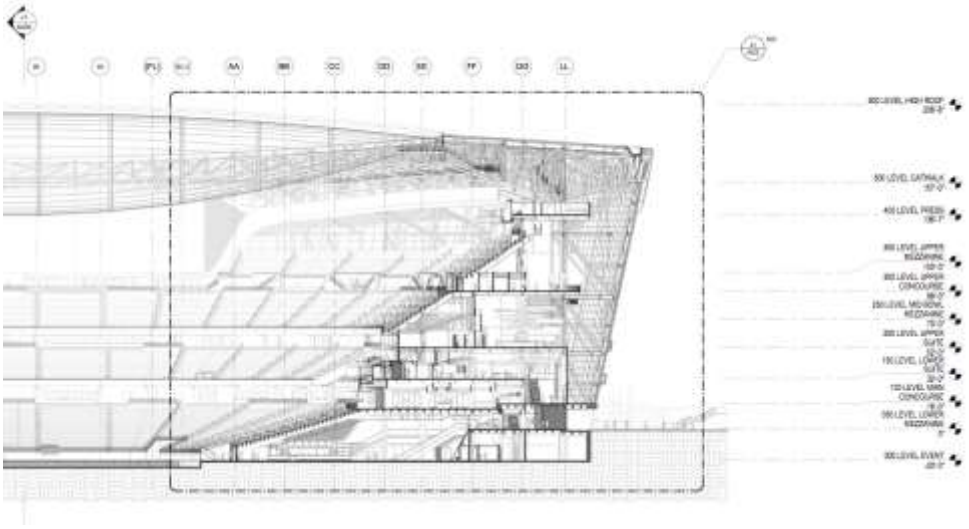

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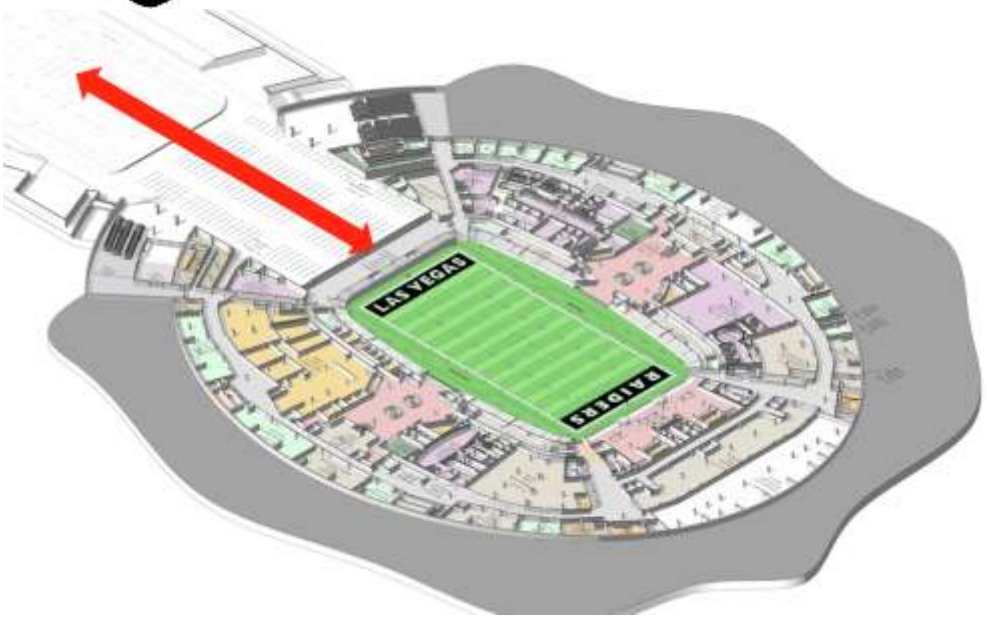

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Construction Overview

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Transportation & Parking

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An Urban Rather Than Suburban Model …

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

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- 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

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LAS VEGAS MONORAIL®

CURTIS L. MYLES
PRESIDENT & CEO
LAS VEGAS MONORAIL

Las Vegas MONORAIL

- 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

TOURISM & MOBILITY

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

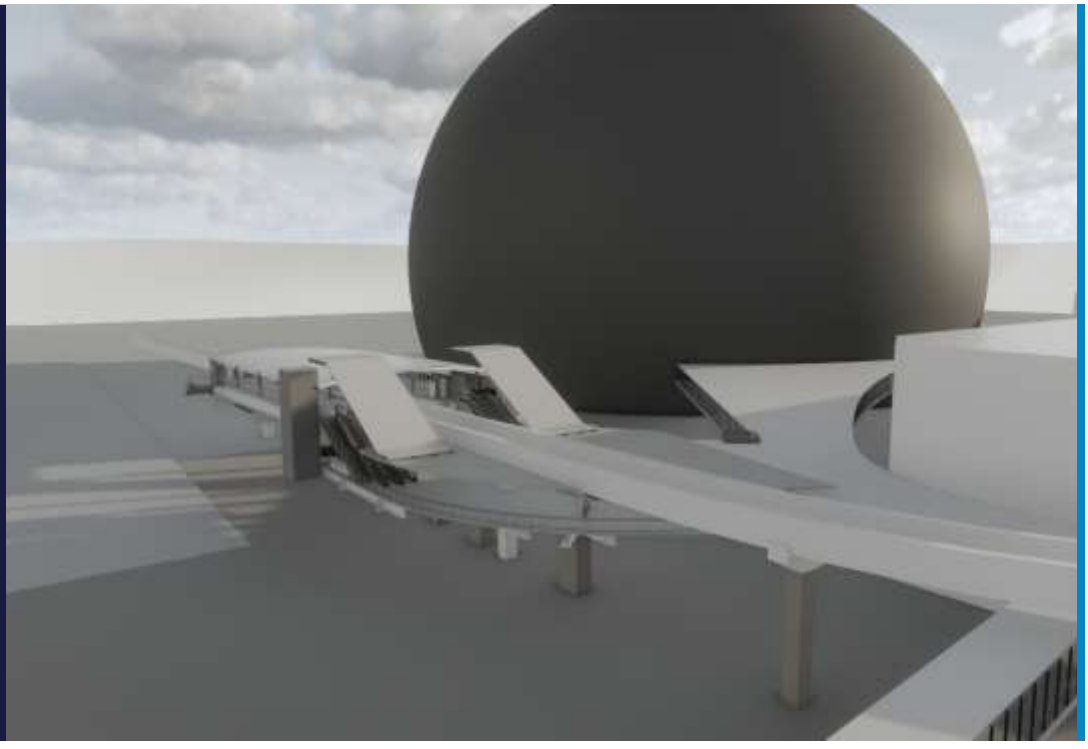
PROJECT DESCRIPTION

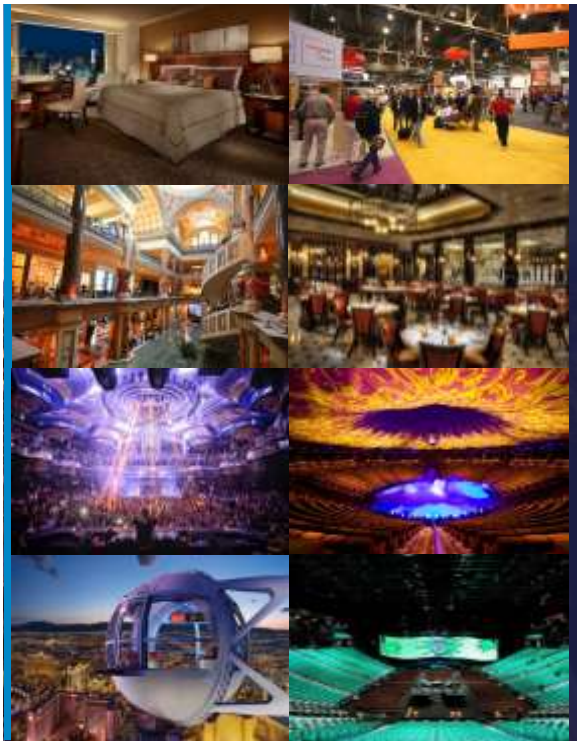
- Approx 1.14 miles new guideway
- 1 new station at Mandalay Bay
- Ped access connector between Mandalay Bay and Luxor hotels
- 1 new station on Sands Avenue
- Ped access connector between MSG Sphere, Sands Expo (and Venetian/Palazzo), as well as new Wynn convention facility via connected bridges
- Upgrade/modifications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

MANDALAY BAY

MONORAIL CONNECTION

SANDS EXPO
MONORAIL CONNECTION





CONVENTION CONNECTION

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

STUDY OVERVIEW

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

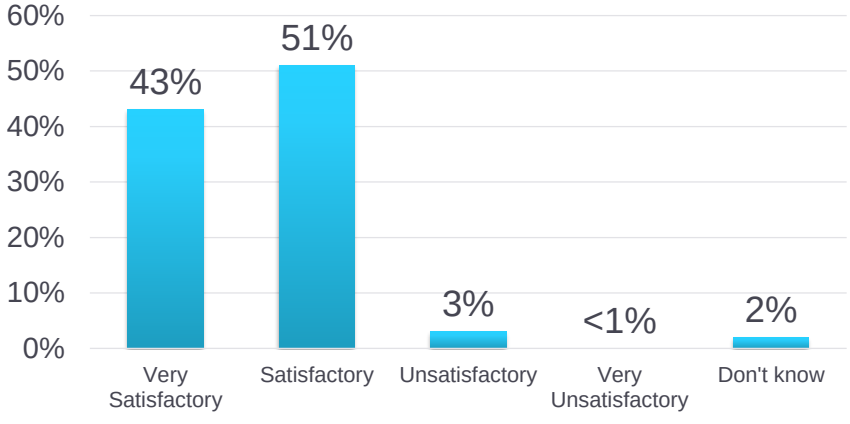
CRITICAL LINKS:

- 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?

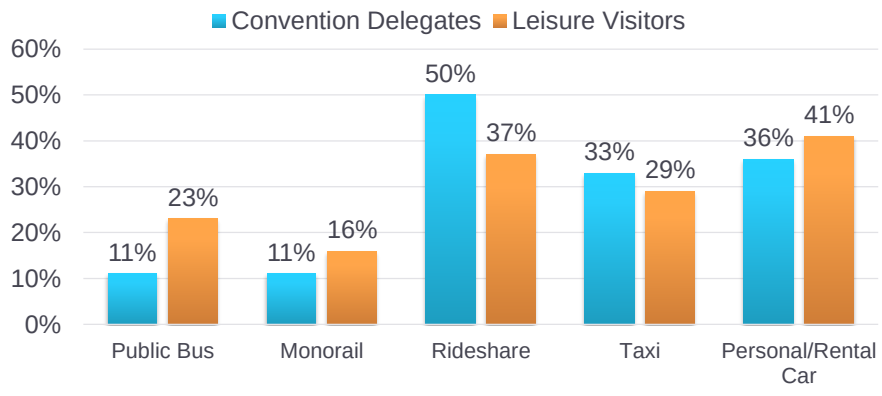


Resort Corridor Feasibility Study

Stated Preference Survey

While in Las Vegas, which types of transportation did you choose?*

*** Multiple Choices Allowed**

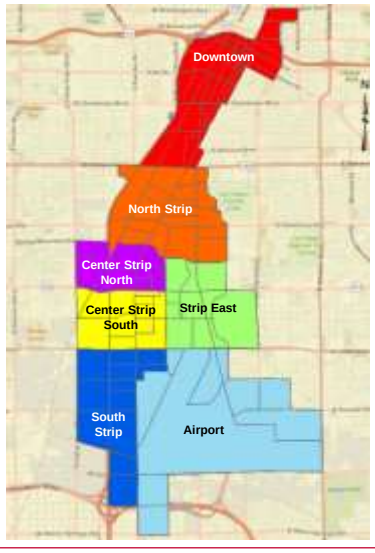


Resort Corridor Feasibility Study

Estimated Daily Resort Corridor Visitor Trips

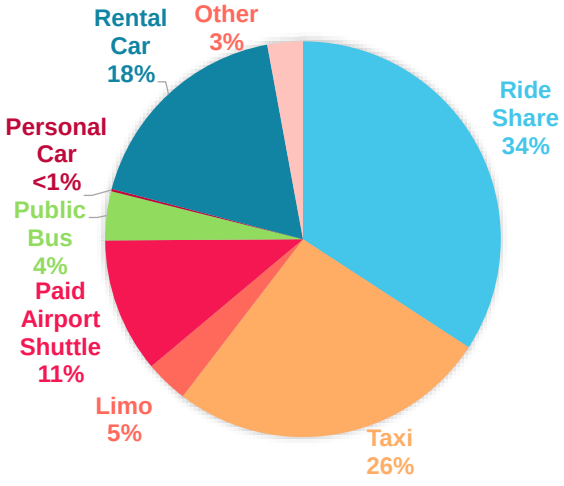
Projected Daily Trips with both Origin and Destination within the Resort Corridor

	Visitor Volume	Daily Visitor Trips
2020	44 M	492,000
2040	56 M	618,000
Change	+26%	+26%



Resort Corridor Feasibility Study

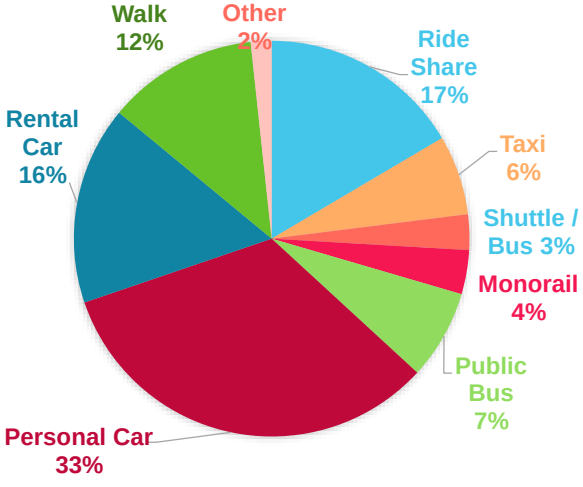
Stated Preference Survey



Modes of Travel to/from Airport

Resort Corridor Feasibility Study

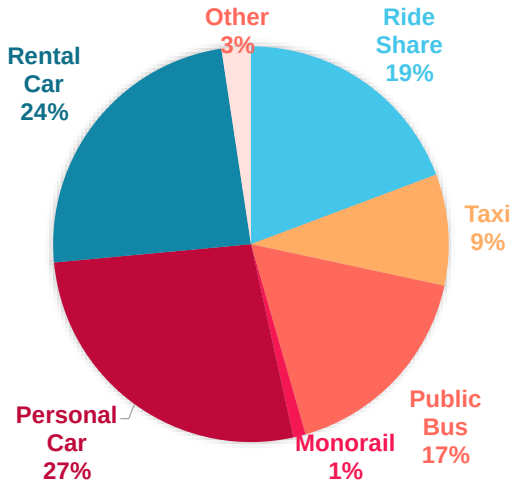
Stated Preference Survey



Modes of Travel along the Strip

Resort Corridor Feasibility Study

Stated Preference Survey



Modes of Travel between Strip and Downtown

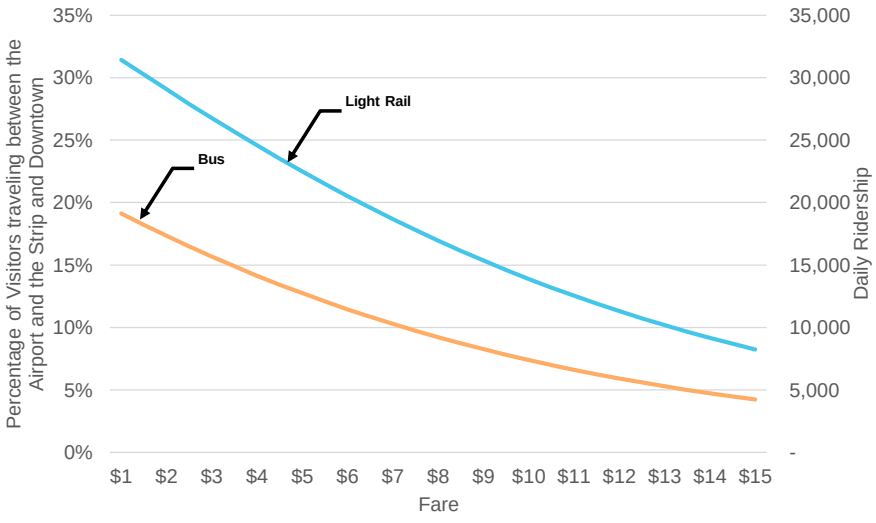
Transportation Modes Chosen by Respondents

Stated Preference Survey

Reference Trip	Mode Chosen				
	Light Rail	Bus	Rideshare	Taxi	Car
All Trips	46%	12%	18%	13%	11%
Between Airport and Resort Corridor	52%	11%	21%	17%	0%
Between Strip and Downtown	37%	13%	14%	9%	26%
Along the Strip	45%	12%	16%	12%	16%

Fare Sensitivity

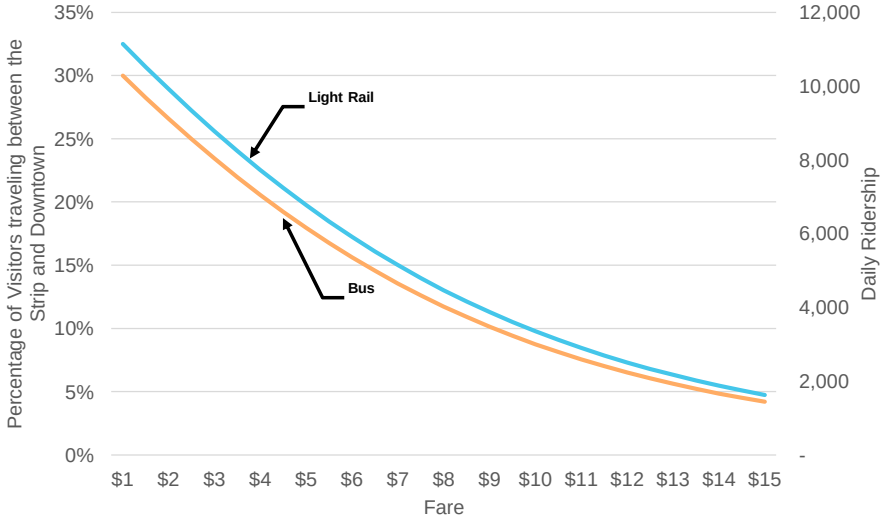
Stated Preference Survey



Louis Berger 57

Fare Sensitivity

Stated Preference Survey



Louis Berger 58

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**

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

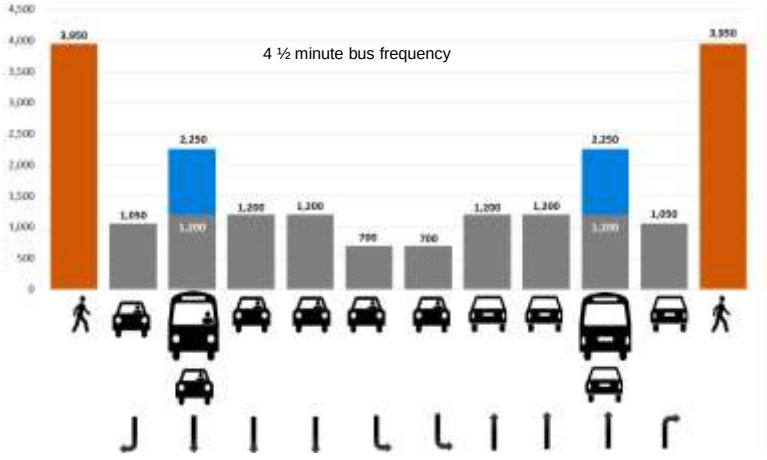
European Tram

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:

Total	7,100 persons per hour per direction
Automobiles	6,050 persons per hour per direction
Deuce and SDX Bus	1,050 persons per hour per direction

Resort Corridor Feasibility Study

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

Deuce +	***Airport SDX***
30,200 +	10,200 = 40,400 (2020)
40,400 +	10,700 = 51,100 (2040)

Resort Corridor Feasibility Study

Alternative 3: European Tram

European Tram

6.5 miles

Estimated Total Average Daily Boardings

European Tram
33,000 (2020)
44,300 (2040)

Resort Corridor Feasibility Study

Alternative 4: European Tram (Strip and Airport)

European Tram

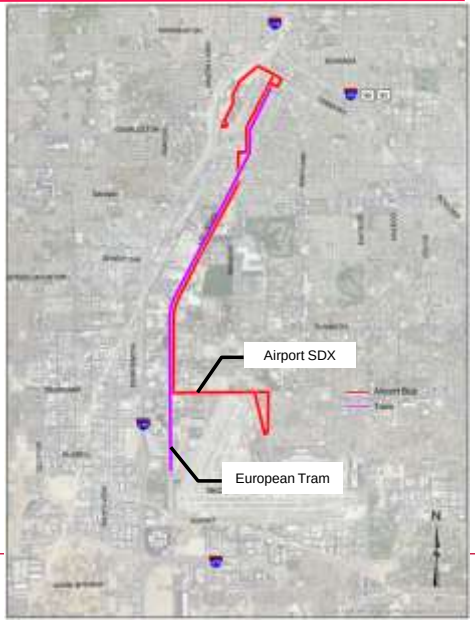
8.2 miles

Estimated Total Average Daily Boardings

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

Resort Corridor Feasibility Study

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

Deuce

9.5 miles

Airport European Tram

7 miles

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

	Estimated Year 2040 Total Daily Ridership
Alternative 1	41,900
Alternative 2	54,100
Alternative 3	47,500
Alternative 4	69,200
Alternative 5	59,700
Alternative 6	63,600

Comparison of Alternatives

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

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**

TRAC

Item #6

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

Item #9 - Upcoming Events

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

Item #10

OPEN DISCUSSION

Item #11

FINAL CITIZENS PARTICIPATION