

# **Dallas Love Field Alternate Entry Update**

**Transportation and  
Infrastructure Committee**

**May 18, 2020**

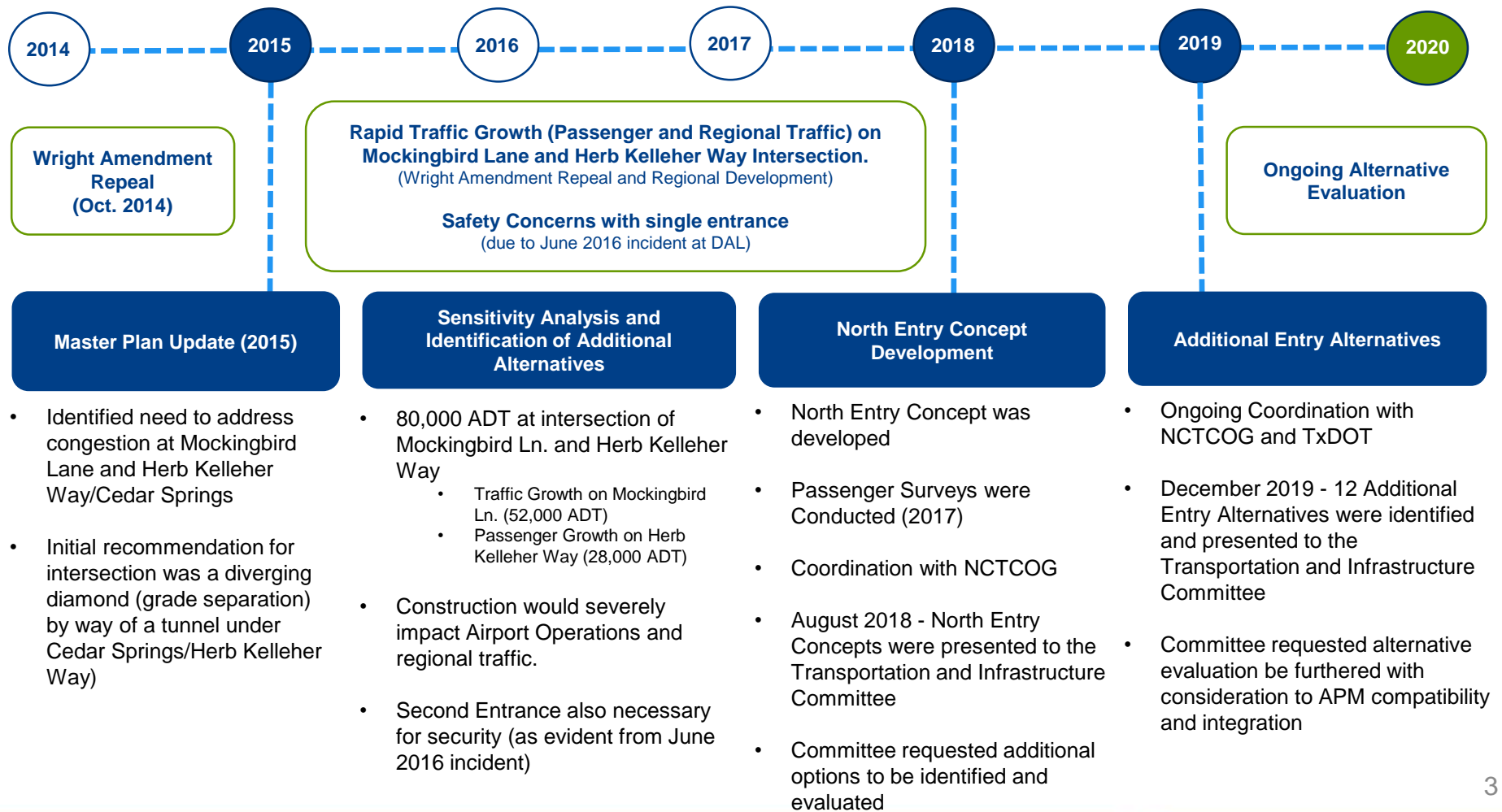
**Mark Duebner, Director  
Department of Aviation**



# Purpose of Briefing

- The purpose of this briefing is to provide an update on Dallas Love Field's Alternate Entry Analysis.
- The Alternate Entry analysis was undertaken to address safety, congestion, and mobility issues on surrounding roadways with specific attention to the Mockingbird Lane/Herb Kelleher Way/Cedar Springs Road intersection

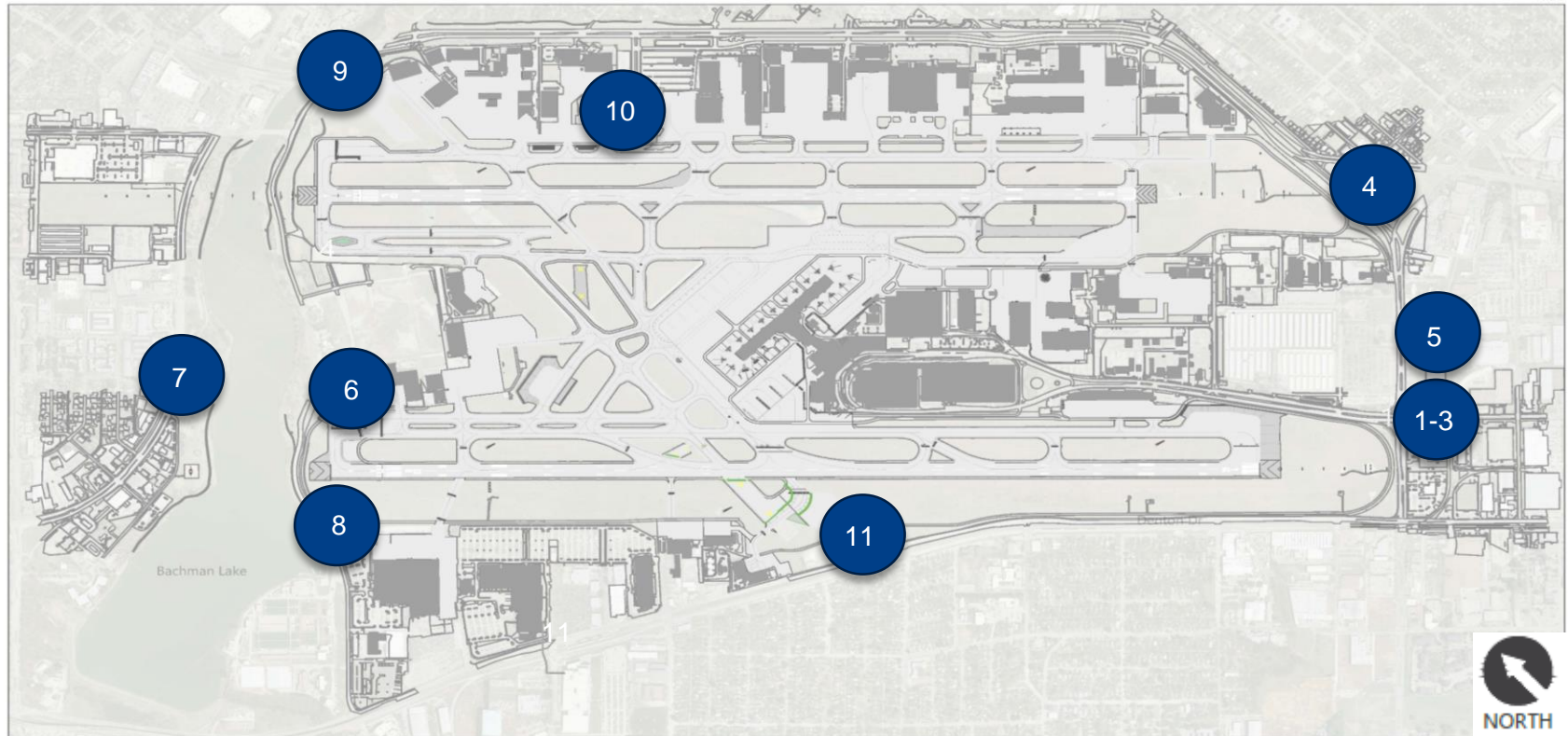
# Background



# ALTERNATIVES EVALUATION



# Alternatives Evaluation



# Alternatives Evaluation

- The 11 Alternatives, in addition to the “No Action” Alternative, were evaluated on the following criteria:
  - Impacts on Existing Facilities/Infrastructure
  - Traffic Impacts
  - Environmental/Air Quality Impacts (VMT reduction)
  - Ability to Accommodate Automated People Mover (APM)
- Each alternative was rated on how it performed in each category. The ratings ranged from Critical Impact to Excellent.



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# Alternatives 1-3

## Conventional Urban Diamond Interchange

LEGEND:

EXCELLENT

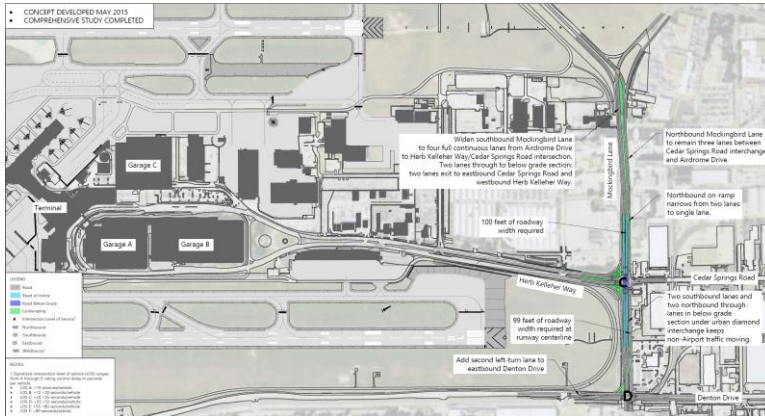
GOOD

NEUTRAL

CHALLENGING

NEGATIVE IMPACT

CRITICAL IMPACT



### CHALLENGING Impacts on Existing Facilities/Infrastructure

- Does not provide a second entrance in the case of an emergency
- Construction of this project would create operational impacts to the Airport and Regional Traffic.
- Utility complex has been identified under intersection which would present difficulties with construction

### CHALLENGING Traffic Impacts

- At 7.0 MAEP (million annual enplanements), improves peak-hour Level of Service (LOS C) at Cedar Springs Road/Herb Kelleher Way; *NOTE: In 2016, 7.0 MAEP was exceeded; 2019 = 8.6 MAEP.*
- Does not significantly increase LOS
- Below grade road would grade-separate heavy traffic on Mockingbird Lane.

### CRITICAL IMPACT Environmental/Air Quality Impacts

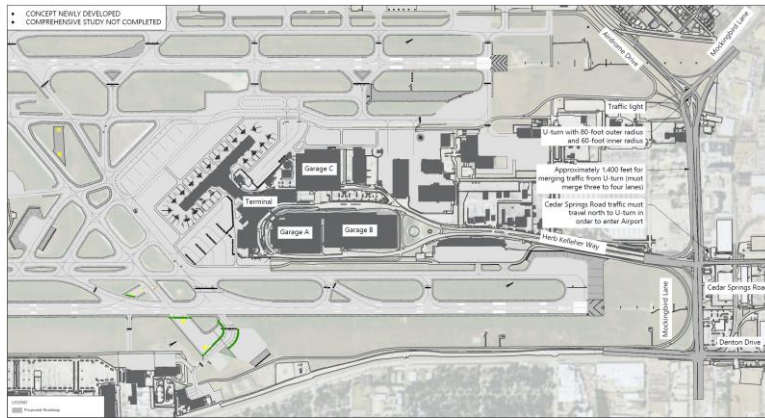
- No reduction in VMT generated by Airport traffic

### CRITICAL IMPACT APM Integration

- Runway Protection Zones limit alignment.
- Major property acquisition needed due to alignment needs
- Part 77 obstructions may inhibit construction depending on APM height and location



# Alternative 4 U-Turn at Airdome



## LEGEND:

EXCELLENT

GOOD

NEUTRAL

CHALLENGING

NEGATIVE IMPACT

CRITICAL IMPACT

## CHALLENGING Impacts on Existing Facilities/Infrastructure

- No second entrance in event of an emergency
- Aboveground and possibly underground utility relocation along southbound Mockingbird Lane
- Cedar Springs Road closed at Mockingbird Lane except for right-turn lane (would impact gas station's property)
- Unconventional roadway patterns require northbound Mockingbird Lane vehicles to pass the inbound Airport roadway to access an upstream U-turn, only to return to the same intersection

## NEGATIVE IMPACT Traffic Impacts

- Increased traffic will negatively impact westbound and eastbound Mockingbird Lane and Lemmon Avenue traffic
- Herb Kelleher Way/Mockingbird Lane Intersection is reduced to two phases
- All traffic would enter Airport from north via widened two-lane southbound right turn into the Airport

## CRITICAL IMPACT Environmental/Air Quality Impacts

- Assumed VMT increase compared to Baseline

## CRITICAL IMPACT APM Integration

- Runway Protection Zones limit alignment.
- Major property acquisition needed due to alignment needs
- Part 77 obstructions may inhibit construction depending on APM height and location



# Alternative 5

## Mockingbird Lane/Waddell Avenue

LEGEND:

EXCELLENT

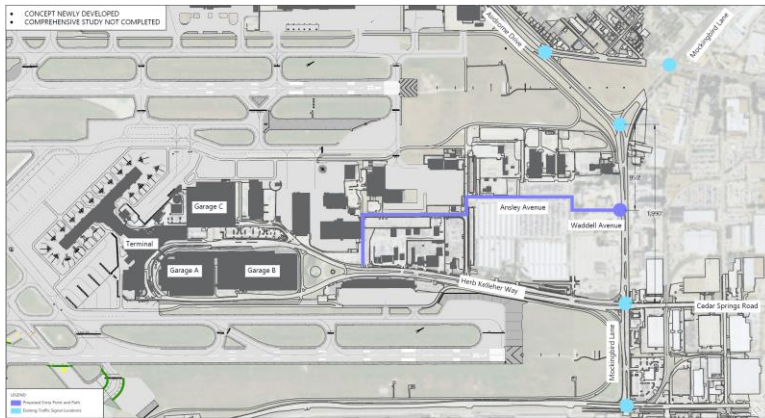
GOOD

NEUTRAL

CHALLENGING

NEGATIVE IMPACT

CRITICAL IMPACT



### CHALLENGING Impacts on Existing Facilities/Infrastructure

- Provides limited utility in means of a second entrance in case of an emergency
- Existing infrastructure would be utilized
- Realignment of Anselmy Avenue and Aviation Place would be required to provide a more direct access into the Terminal Core Area

### CRITICAL IMPACT Traffic Impacts

- Traffic congestion remains on Mockingbird Lane
- Addition of a second parallel entrance does little to diversify travel routes to the Airport
- No clear route to Terminal; exiting traffic would still likely use Herb Kelleher Way
- Proximity of proposed traffic signal to existing signals is less than 0.25 miles (Federal Highway Administration's recommendation), resulting in seven signals within a 5,600-foot span on Mockingbird Lane. This would cause poor signal progressing, more traffic delay, and increased risk for traffic accidents.

### CRITICAL IMPACT Environmental/Air Quality Impacts

- No reduction in VMT generated by Airport traffic

### CRITICAL IMPACT APM Integration

- Runway Protection Zones limit alignment.
- Major property acquisition needed due to alignment needs
- Part 77 obstructions may inhibit construction depending on APM height and location

# Alternatives 1-5 APM Integration

## CRITICAL IMPACT APM Integration

- Runway Protection Zones limit alignment
- Major property acquisition needed due to alignment needs
- Part 77 obstructions may inhibit construction depending on APM height and location
- Property easement/off-Airport right of way
- Effects to on-Airport facilities
- Complexities in construction of APM in this location could impact Airport operations



## NOTES:

Average cost per mile based on Benchmarking = \$225M (See Appendix)

Most recent APM benchmarked (Tampa International Airport – SkyConnect - 2018) was approximately \$280M per mile



# Alternative 6

## Shorecrest Drive Central Airfield

### LEGEND:

EXCELLENT

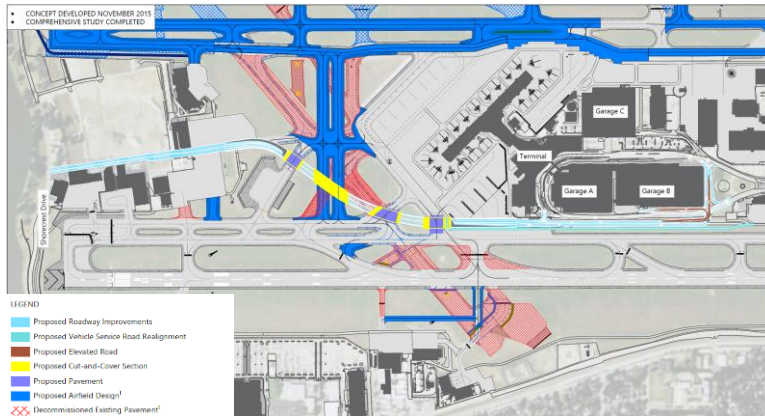
GOOD

NEUTRAL

CHALLENGING

NEGATIVE IMPACT

CRITICAL IMPACT



### CHALLENGING Impacts on Existing Facilities/Infrastructure

- Cut-and-cover under taxiway system during planned airfield improvements
- Realign the VSR roadway
- Widen Shorecrest Drive into two lanes in each direction
- Necessary landside improvements in the Terminal Core Area
- Requires underground utility relocations
- Requires possible land acquisition

### EXCELLENT Traffic Impacts

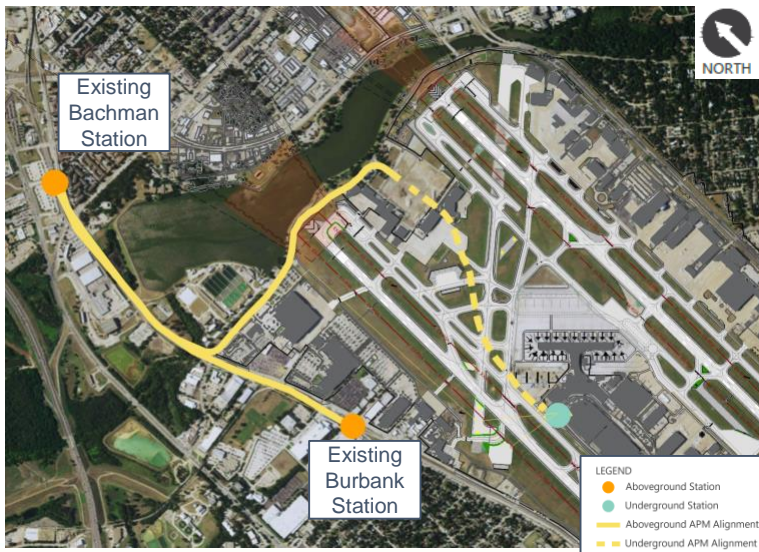
- Approximately 45 percent of Airport traffic expected to use north entrance
- Reduce traffic on Mockingbird Lane & south arterials
- Assumed benefits at existing entrance (Local traffic impact still to be analyzed)

### EXCELLENT Environmental/Air Quality Impacts

- 5.35% reduction in VMTs from Airport traffic compared to the baseline (10,119,260 VMT)

### NEUTRAL APM Integration

- Viable Connectivity to Bachman Station (approximately 2.5 miles)
- Viable Connectivity to Burbank Station (approximately 2.3 miles)



# Alternative 7

## Northwest Highway Central Airfield

### LEGEND:

EXCELLENT

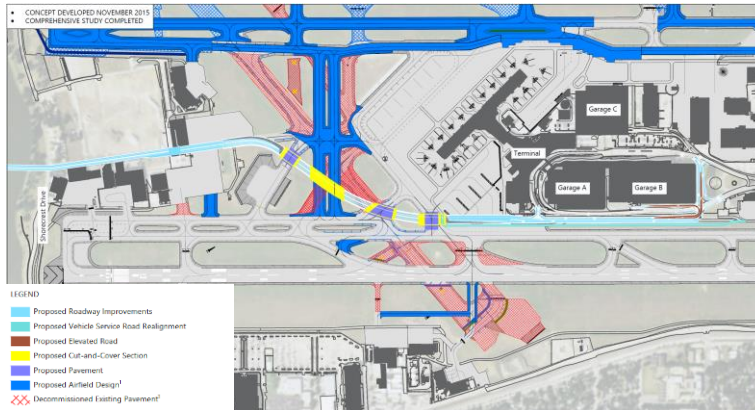
GOOD

NEUTRAL

CHALLENGING

NEGATIVE IMPACT

CRITICAL IMPACT



### CHALLENGING Impacts on Existing Facilities/Infrastructure

- Cut-and-cover under taxiway system during planned airfield improvements
- Realign the VSR roadway
- Additional infrastructure needed to connect Northwest Highway with bridge over Bachman Lake
- Necessary landside improvements in the Terminal Core Area
- Requires underground utility relocations.
- Requires possible land acquisition
- Impacts to parks

### EXCELLENT Traffic Impacts

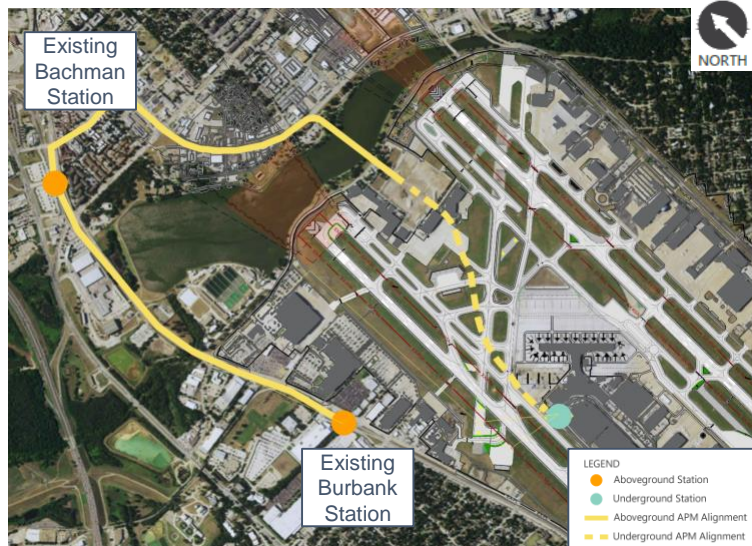
- Approximately 45 percent of Airport traffic is expected to use north entrance
- Reduce traffic on Mockingbird Lane & south arterials
- Assumed benefits at existing entrance (Local traffic impact still to be analyzed)

### EXCELLENT Environmental/Air Quality Impacts

- 5.85% reduction in VMTs from Airport traffic compared to the baseline (11,056,580 VMT)

### NEUTRAL APM Integration

- Viable Connectivity to Bachman Station (approximately 2.1 - 2.3 miles)
- Viable Connectivity to Burbank Station (approximately 3.2 - 3.4 miles)



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# Alternative 8

## Shorecrest Drive West of Runway 13R-31L

LEGEND:

EXCELLENT

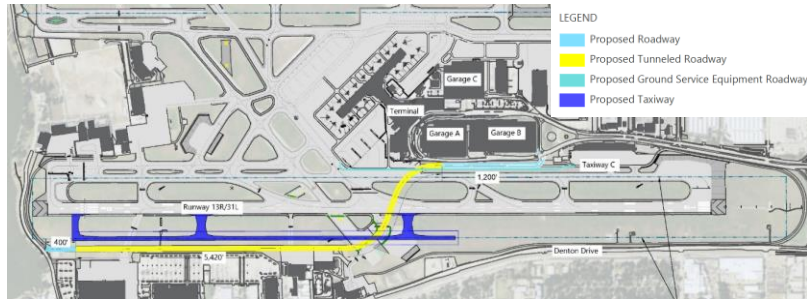
GOOD

NEUTRAL

CHALLENGING

NEGATIVE IMPACT

CRITICAL IMPACT



### CHALLENGING Impacts on Existing Facilities/Infrastructure

- Cut-and-cover portal to portal under active Runway and taxiway system
- Realign the VSR roadway
- Widen Shorecrest Drive to two lanes each direction
- Necessary landside improvements in the Terminal Core Area
- Require underground utility relocations (large utility core)

### EXCELLENT Traffic Impacts

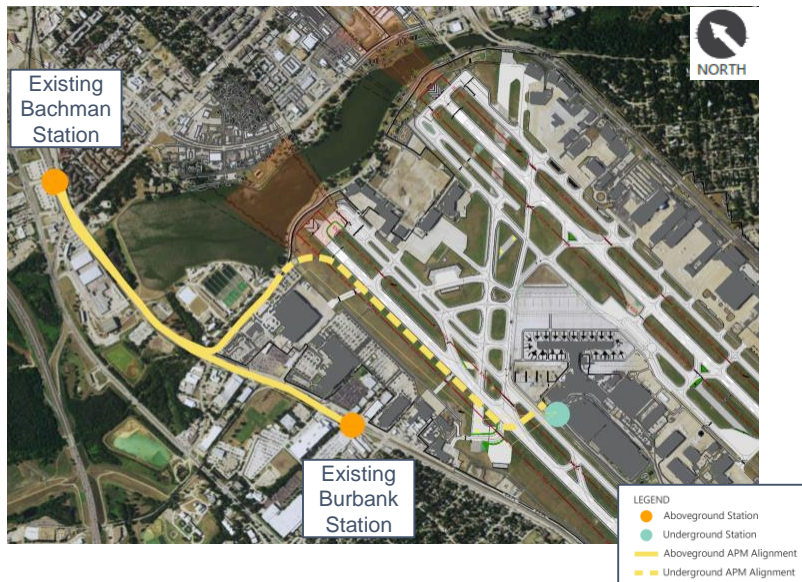
- Approximately 45 percent of Airport traffic is expected to use north entrance
- Reduce traffic on Mockingbird Lane & south arterials
- Assumed benefits at existing entrance (Local traffic impact still to be analyzed)

### EXCELLENT Environmental/Air Quality Impacts

- 5.35% reduction in VMTs from Airport traffic compared to the baseline (10,119,260 VMT)

### NEUTRAL APM Integration

- Viable Connectivity to Bachman Station (approximately 2.1 miles)
- Viable Connectivity to Burbank Station (approximately 1.8 miles)



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# Alternative 9

## Lemmon Avenue / Shorecrest Drive

### LEGEND:

EXCELLENT

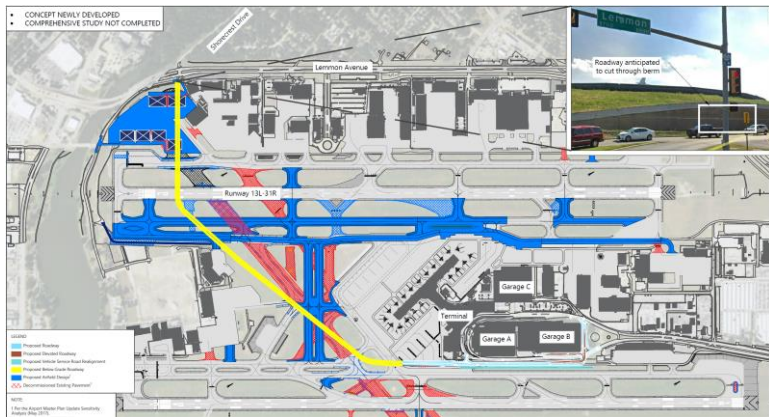
GOOD

NEUTRAL

CHALLENGING

NEGATIVE IMPACT

CRITICAL IMPACT



### CHALLENGING Impacts on Existing Facilities/Infrastructure

- Cut-and-cover from portal to portal under active Runway and taxiway system during planned airfield improvements
- Realign the VSR roadway
- Necessary landside improvements in the Terminal Core Area
- Impact to existing leaseholds

### GOOD Traffic Impacts

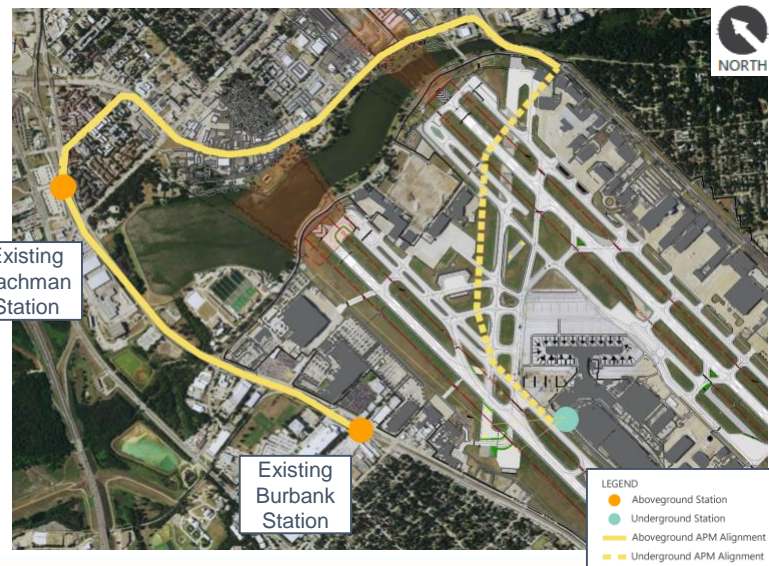
- Reduce traffic on Mockingbird Lane
- Approximately 45 percent of Airport traffic is expected to use north entrance
- Traffic expected to increase on Shorecrest Drive

### EXCELLENT Environmental/Air Quality Impacts

- 5.46% reduction in VMTs from Airport traffic compared to the baseline (10,319,645 VMT)

### NEUTRAL APM Integration

- Viable Connectivity to Bachman Station (approximately 3.2 – 3.4 miles)
- Viable Connectivity to Burbank Station (approximately 4.3 - 4.5 miles)



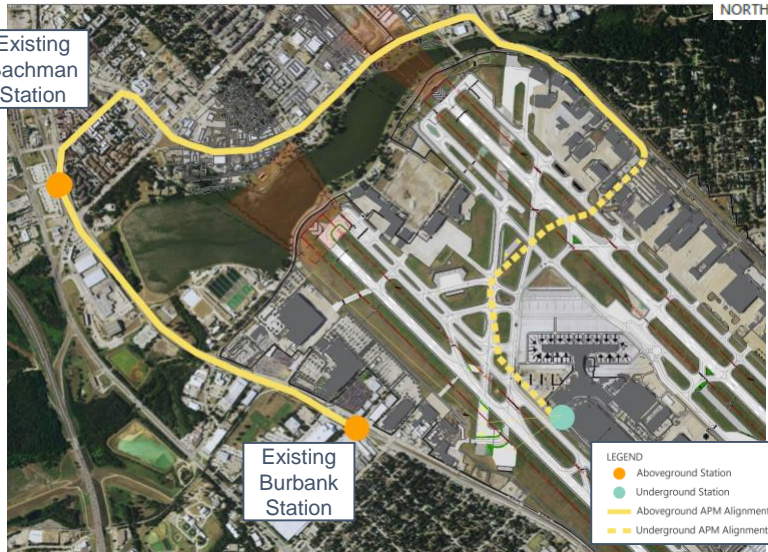
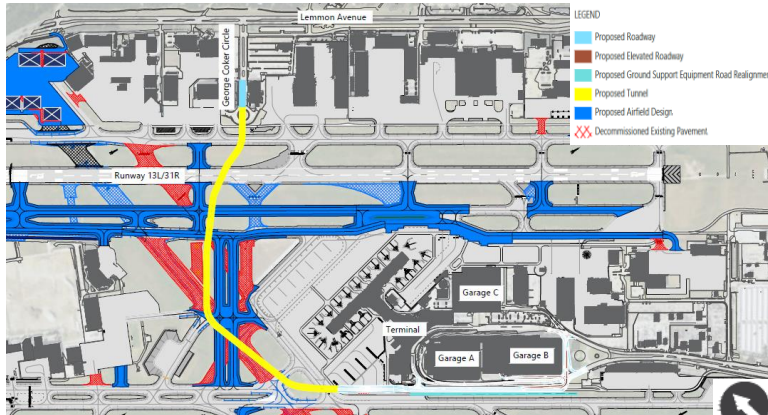


# Alternative 10

## Lemmon Avenue / George Coker

**LEGEND:**

EXCELLENT
GOOD
NEUTRAL
CHALLENGING
NEGATIVE IMPACT
CRITICAL IMPACT



### CHALLENGING Impacts on Existing Facilities/Infrastructure

- Cut-and-cover under active Runway and taxiway system during planned airfield improvements
- Realign the VSR roadway
- Necessary landside improvements in the Terminal Core Area
- Impacts existing leaseholds

### EXCELLENT Traffic Impacts

- Approximately 45 percent of Airport traffic is expected to use north entrance
- Reduce traffic on Mockingbird Lane

### EXCELLENT Environmental/Air Quality Impacts

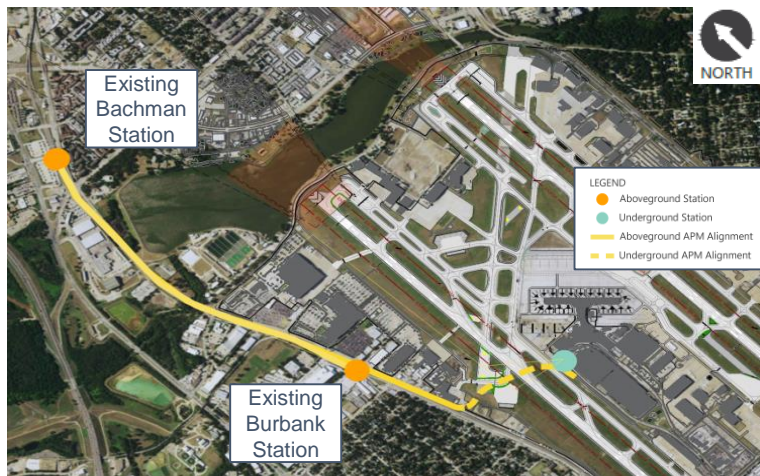
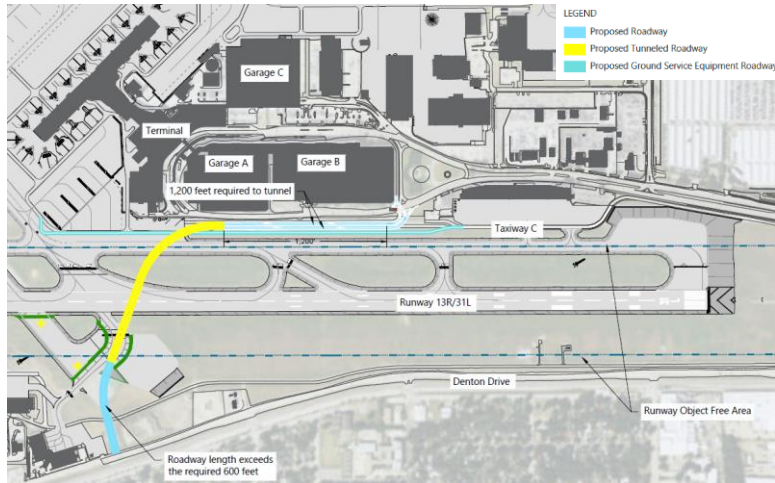
- 5.46% reduction in VMTs from Airport traffic compared to the baseline (10,319,546 VMT)

### NEUTRAL APM Integration

- Viable connectivity to Bachman Station (approximately 3.5 - 3.7 miles)
- Viable connectivity to Burbank Station (approximately 4.6 - 4.8 miles)

# Alternative 11

## Denton Drive



### LEGEND:

EXCELLENT

GOOD

NEUTRAL

CHALLENGING

NEGATIVE IMPACT

CRITICAL IMPACT

### CHALLENGING Impacts on Existing Facilities/Infrastructure

- Cut-and-cover under active Runway and taxiway system
- Realign the VSR roadway
- Necessary landside improvements in the Terminal Core Area
- Necessary additional traffic signal at intersection with Denton Drive
- Require underground utility relocations (large utility core)
- Impacts existing leasehold

### CHALLENGING Traffic Impacts

- Potentially higher use for vehicles traveling north
- Perceived less traffic reduction to Mockingbird Lane than north entrance alternatives

### GOOD Environmental/Air Quality Impacts

- 4.44% reduction in VMTs from Airport Traffic compared to the baseline (8,397,555 VMT)

### CRITICAL IMPACT APM Integration

- Due to a greater than 8% grade change needed to tunnel under runway, APM integration is not viable.



# Shortlisted Alternatives – Evaluation Matrix

ALTERNATIVES

		Impacts on Existing Infrastructure	Traffic Impacts	Environmental/ Air Quality Impacts	APM Applicability	SHORTLISTED CONCEPTS
SOUTH	1-3			X	X	X
	4			X	X	X
	5		X	X	X	X
NORTH	6					→
	7					→
	8					→
EAST	9					→
	10					→
WEST	11				X	X

## LEGEND

Excellent

Good

Neutral

Challenging

Negative Impact

Critical Impact

Shorecrest Drive - Central Airfield

Northwest Highway - Central Airfield

Shorecrest Drive - West of Runway 13R-31L

Lemmon Avenue – Shorecrest Dr.

Lemmon Avenue – George Coker

1. Conventional Urban Diamond Interchange
2. Diverging Diamond Interchange
3. Direct Ramp Interchange
4. U-Turn at Airdrome
5. Mockingbird Ln/ Waddell Ave
6. Shorecrest Dr. Central Airfield
7. Bridge from Northwest Hwy Central Airfield
8. Shorecrest Dr west of Runway 13R-31L
9. Lemmon Ave/Shorecrest Dr Intersection
10. Lemmon Ave/George Coker Cir Intersection
11. Denton Dr

# NEXT STEPS

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# Next Steps - Shortlisted Alternatives

- Public outreach will be conducted to obtain additional feedback once the Committee agrees to the set of shortlisted alternatives.
- The shortlisted alternatives are to be refined and analyzed further based on the following criteria:
  - Detailed Traffic Analysis
  - Emissions Analysis
  - Cost Benefit Analysis
  - APM Integration
  - Design Feasibility

# **Dallas Love Field Alternate Entry Update**

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**May 18, 2020**

**Mark Duebner, Director  
Department of Aviation**

