2018 LEVELS OF CONGESTION/DELAY

**Congestion Index**
- No Congestion
- Light Congestion
- Moderate Congestion
- Severe Congestion

![Map of DFW showing levels of congestion with labels for Dallas CBD and Fort Worth CBD](image1)

ANTICIPATED 2045 LEVELS OF CONGESTION/DELAY

**Congestion Index**
- No Congestion
- Light Congestion
- Moderate Congestion
- Severe Congestion

![Map of DFW showing anticipated levels of congestion with labels for Dallas CBD and Fort Worth CBD](image2)

**REGIONAL POPULATION GROWTH**
- 2018: 7,429,723
- 2045: 11,246,331
- **51.4%** Population Increase

**ANNUAL COST OF CONGESTION**
- 2018: $12.1 Billion
- 2045: $27.3 Billion
- **125%** Cost Increase

DFW HIGH-SPEED TRANSPORTATION CONNECTIONS STUDY

Oct. 2021
**Phase 1 - Alternative Development**

- Public and Agency Engagement
- Alternative Development *(Includes a technology forum)*
- Alternative Screening *(Includes alignments and technology)*

**GOAL for Phase 1**
Identify technologies and alignments to be carried into Phase 2

---

**Phase 2 - Engineering & Environmental**

- Conceptual Engineering
- National Environmental Policy Act Documentation and Approval
- Preliminary Engineering
- Financial and Project Management Plans
- Public and Agency Engagement

**GOAL for Phase 2**
Federal environmental approval of alignment and technology
Over 130 meetings held through September 2021

Public Meetings (7)
Technical Work Group (8)
Federal and State Coordination (21)
Technology Forum & one-on-ones with Providers (19)
Transportation Agencies and Railroads (28)
Study Area Cities (9)
Elected Officials (15)
Community Groups and Organizations (27)

Thank you for your participation in our previous meetings!

You can find responses to questions and comments from previous meetings and a FAQs document at our project website: [www.nctcog.org/dfw-hstcs](http://www.nctcog.org/dfw-hstcs) >> Project Information
Environmental Justice | Measurements
--- | ---
Number of census block groups with above average Environmental Justice Index (Low-income and Minority Populations) that intersect the 250-foot buffer.

Methodology
A buffer of 250-feet in each direction from the alignment centerline was used. Census block groups that intersect the 250-foot buffer were considered. Environmental Justice parcel data was provided by NCTCOG for the DFWHSTC study area. The percentages calculated from the parcel data reveal an average of 19% of the regional population is considered low-income and an average of 53% are considered minority in the regional population.

**ACTIONS TAKEN:**
Stakeholder interviews were conducted with agencies and individuals with links to environmental justice communities. Virtual public meeting presentations were recorded in English and Spanish. Presentations and handouts were translated to Spanish and posted on the project website. Meeting notices included and option to provide an interpreter upon request with advance notice.
### EVALUATION METHODOLOGY

<table>
<thead>
<tr>
<th>INITIAL ALTERNATIVES</th>
<th>EVALUATION OF ALTERNATIVES</th>
<th>ALTERNATIVES CARRIED FORWARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify &amp; Develop Initial Alternatives</td>
<td>Level 1 (Purpose &amp; Need) Evaluate adherence to Purpose &amp; Need for each alternative 43 Alignments &amp; 5 Technologies considered</td>
<td>Draft Environmental Document Limited number of technologies and alignments carried forward into Environmental Document</td>
</tr>
<tr>
<td></td>
<td>Level 2 (Fatal Flaw &amp; Ranking) Evaluate alternatives for fatal flaws and rank remaining alternatives 23 Alignments &amp; 4 Technologies considered</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level 3 (Detailed Evaluation) Detailed evaluation of top alternatives 10 Alignments &amp; 3 Technologies considered</td>
<td></td>
</tr>
</tbody>
</table>

#### PHASE 1
- **PHASE 1**
- **PHASE 2**

---

**Ongoing Public, Stakeholder, and Agency Engagement**

**DFW HIGH-SPEED TRANSPORTATION CONNECTIONS STUDY**
## SCREENING CRITERIA

### Level 1
*(Ability to Meet Purpose and Need)*

**Primary**
- Serves Downtown
- Dallas and Fort Worth Central Station *(fatal flaw)*
- Travel Time *(fatal flaw)*

**Secondary**
- Safe
- Reliable
- Convenient
- Linkages to Other High-Performance Systems in Texas
- Connect to Existing Regional/Light Rail in Dallas-Fort Worth
- Improved Access to Major Activity Centers

### Level 2
*(Fatal Flaws and Ranking)*

- Proximity to Sensitive Social, Biological, or Cultural Areas
- Potential Community Impacts
- Technology Maturity, Design Criteria, Regulatory Approval
- Capacity, Travel Time, Compatibility with Existing Infrastructure
- Operational Considerations

### Level 3
*(Detailed Evaluation)*

- Costs
- Potential Impacts to Sensitive Social, Biological, or Cultural Areas
- Potential Community Impacts
- Constructability/Operability
end-to-end (Dallas to Fort Worth) alignments/corridors were identified
Only IH-30 (12 alignments) and SH 180 (11 alignments) corridors carried forward into Level 2 screening.
**IH-30:** Seven of 12 alignments carried forward into Level 3 screening, six of the seven alignments combined into two.

**SH 180:** Three of 11 alignments carried forward into Level 3 screening.
Only IH-30 alignments carried forward into Phase 2
TRAVEL TIMES TO PROPOSED HIGH-SPEED TRANSPORTATION STATIONS (PM PEAK)

Legend
- Proposed Stations
- Major Roads
- City Boundaries (Dallas, Fort Worth, Arlington, Irving, and Grand Prairie)

PM Peak Travel Time to HST Stations
- < 5 Minutes
- 5-10 Minutes
- 10-15 Minutes
- 15-20 Minutes
- 20-25 Minutes
- 25-30 Minutes

DFW HIGH-SPEED TRANSPORTATION CONNECTIONS STUDY
## Types of Passenger Rail Technology

<table>
<thead>
<tr>
<th>Top Speed</th>
<th>Exclusive Guideway</th>
<th>Peak Headways</th>
<th>Operating Style</th>
<th>Cargo</th>
<th>Technology Readiness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONVENTIONAL</strong> TRE, TEXRail, A-Train</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80 mph</td>
<td>No</td>
<td>20-30 Minutes</td>
<td>Fixed Schedule</td>
<td>No</td>
<td>Operational</td>
</tr>
<tr>
<td><strong>HIGHER-SPEED</strong> Amtrak, Acela Express</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>125 mph</td>
<td>No</td>
<td>20-30 Minutes</td>
<td>Fixed Schedule</td>
<td>No</td>
<td>Operational</td>
</tr>
<tr>
<td><strong>HIGHER-SPEED</strong> Asia &amp; Europe, Under Construction in California</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>250 mph</td>
<td>Yes</td>
<td>3-30 Minutes</td>
<td>Fixed Schedule</td>
<td>Yes</td>
<td>Operational</td>
</tr>
<tr>
<td><strong>MAGLEV</strong> China, Germany, Japan, South Korea, Under Environmental Study (DC to Baltimore)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>300+ mph</td>
<td>Yes</td>
<td>15-20 Minutes</td>
<td>Fixed Schedule</td>
<td>No</td>
<td>Operational</td>
</tr>
<tr>
<td><strong>HYPERLOOP</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>650+ mph</td>
<td>Yes</td>
<td>~2 Minutes</td>
<td>On-demand</td>
<td>Yes</td>
<td>Prototypes Undergoing Testing</td>
</tr>
</tbody>
</table>

### Conventional
- TRE, TEXRail, A-Train

### Higher-Speed
- Amtrak, Acela Express
- Asia & Europe, Under Construction in California

### Maglev
- China, Germany, Japan, South Korea, Under Environmental Study (DC to Baltimore)

### Hyperloop
- Prototypes Undergoing Testing
TECHNOLOGY READINESS

Technology Readiness Levels (TRL)
- Hyperloop – TRL 6
- High-Speed Rail – TRL 9

Advancing proven (HSR) and emerging (Hyperloop) technologies
Project schedule allows time for technology advancement
Emerging technologies are advancing rapidly
Infrastructure characteristics are very similar between HSR and Hyperloop

<table>
<thead>
<tr>
<th>Basic Research</th>
<th>Applied Research</th>
<th>Development</th>
<th>Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Basic principles and research</td>
<td>4 Components validated in a laboratory environment</td>
<td>6 Prototype demonstrated in relevant environment</td>
<td>9 Technology refined and adopted</td>
</tr>
<tr>
<td>2 Application formulated</td>
<td>5 Integrated components demonstrated in a laboratory environment</td>
<td>7 Prototype demonstrated in operational environment</td>
<td></td>
</tr>
<tr>
<td>3 Proof of concept</td>
<td></td>
<td>8 Technology proven in operational environment</td>
<td></td>
</tr>
</tbody>
</table>

Hyperloop
High-Speed Rail

DFW HIGH-SPEED TRANSPORTATION CONNECTIONS STUDY
POTENTIAL TYPICAL SECTIONS

HYPERLOOP

Proposed Structure (Height Will Vary)

Tube 1
Tube 2

Approx. 75'
Approx. 40'
Approx. 20'

HIGH-SPEED RAIL

Proposed Structure (Height Will Vary)

Approx. 100'
Approx. 45'
Approx. 15'

DFW HIGH-SPEED TRANSPORTATION CONNECTIONS STUDY

POTENTIAL CORRIDOR ALIGNMENT

RIVERSIDE DRIVE IN FORT WORTH TO WEST OF FIELDER ROAD IN ARLINGTON

Oct. 2021
STATIONS
High-speed stations are typically much larger than commuter/light rail stations:

- Large economic development impact potential
- High-density developments surrounding stations
- Serve as huge multimodal hubs for entire regions
**NEXT STEPS: PHASE 2**

- **Two-year timeframe anticipated**
- **Financial and Project Management Plans**
- **Public, Stakeholder, and Agency outreach**

**Environmental document in accordance with NEPA including, but not limited to:**
- Community impacts
- Cultural resources
- Natural environment
- Noise/Vibration
- Environmental Justice analysis

**Preliminary Engineering**
STAY CONNECTED

Project Website
nctcog.org/dfw-hstcs

Get
Project Information

Ask a Question or
Leave Feedback
and outreach suggestions

Find
Public Meeting
dates and virtual access

Request
a Group or Event
Presentation

Subscribe
to the High-Speed News
and receive meeting alerts

Contact
Rebekah Gongora
Communications Manager
682.433.0477
rgongora@nctcog.org