Shaping our Future

Your Future is Riding on Us.

DCTA

LEWISVILLE / HIGHLAND VILLAGE COMPREHENSIVE OPERATIONAL ANALYSIS

NELSON NYGAARD

COA Study Goals

- Identify strengths and weaknesses of existing system
  - Review travel patterns
  - Assess system efficiency
  - Identify unmet transit needs

- Recommend service improvements
  - Serve existing riders better
  - Attract new riders
  - Improve over-all system productivity

Guiding Principles

- Service Should be Simple:
  - For people to use transit, service should be designed so that it is easy to use and intuitive to understand

- Service Should Operate at Regular Intervals:
  - In general, people can easily remember repeating patterns, but have difficulty remembering irregular sequences.

- Routes Should Operate Along a Direct Path:
  - The fewer directional changes a route makes, the easier it is to understand. Circuitous alignments are disorienting and difficult to remember.

- Routes Should be Symmetrical:
  - Routes should operate along the same alignment in both directions to make it easy for riders to know how to get back to where they came from.

- Routes Should Serve Well Defined Markets:
  - Routes should include strong anchors, but should avoid unintended service duplication.

- Service Should be Well Coordinated:
  - At major transfer locations, schedules should be coordinated to the greatest extent possible to minimize connection times for the predominant transfer flows.

Guiding Principles

Service Should Operate at Regular Intervals:

- In general, people can easily remember repeating patterns, but have difficulty remembering irregular sequences.

Departure times from Main Street Wal-Mart:

Hour	Route 21	Route 22	Route 23
7:00	:41	:00, :30	:20
8:00	:23	:00, :30	:00, :40
9:00	:05, : 47	:00, :30	:20
10:00	:29	:00, :30	:00, :40
11:00	:11, :53	:00, :30	:20
12:00	:35	:00, :30	:00, :40

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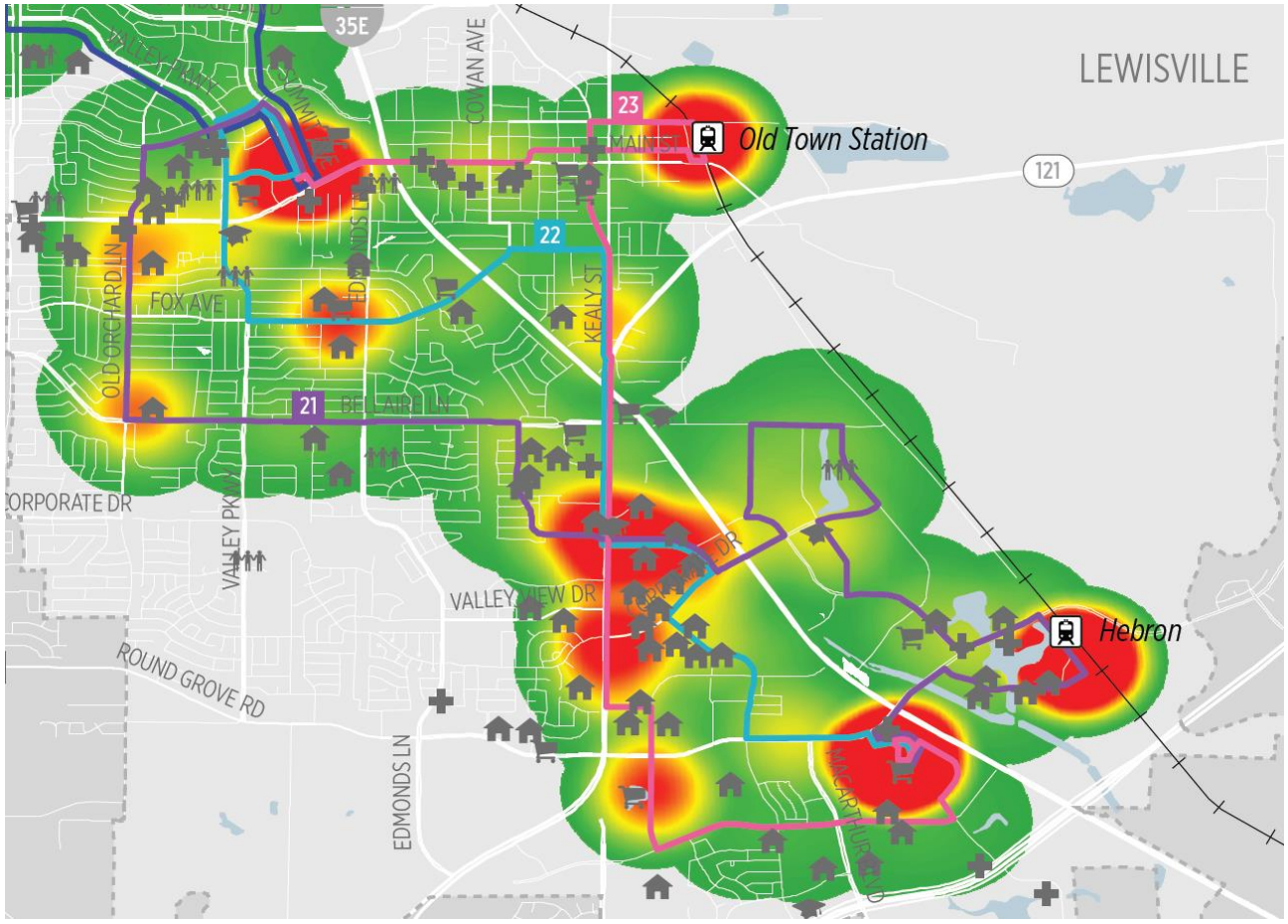

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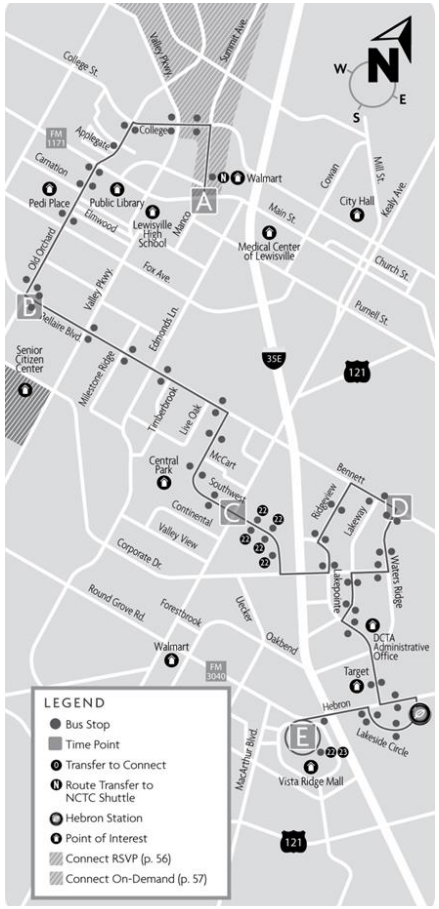

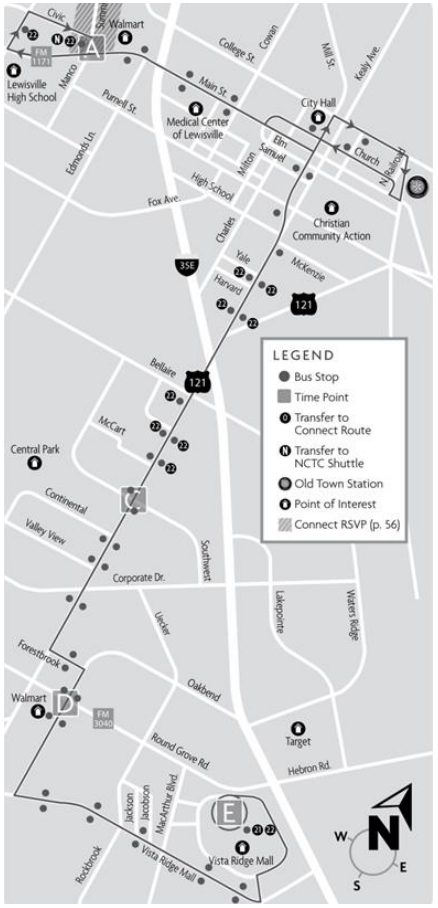

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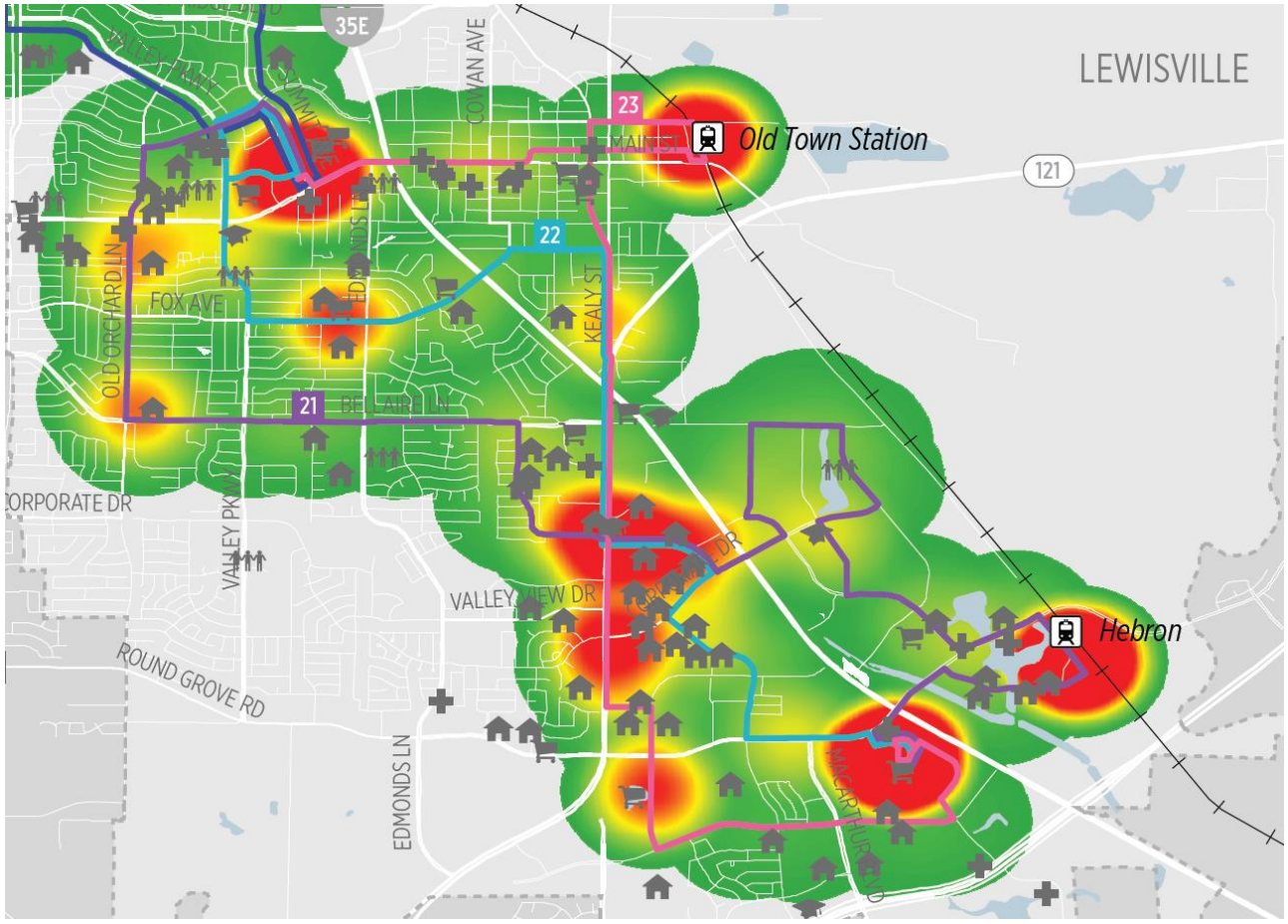


Guiding Principles

Service Should be Well Coordinated:

- At major transfer locations, schedules should be coordinated to the greatest extent possible to minimize connection times for the predominant transfer flows.

Hebron Station:

A-train (Northbound)	Route 21 (Southbound)	A-train (Southbound)
7:21	7:29	7:21
8:04	8:11	7:43
8:26	8:53	8:05
9:10	9:35	8:26
9:54	10:17	9:54
11:05	10:59	11:05

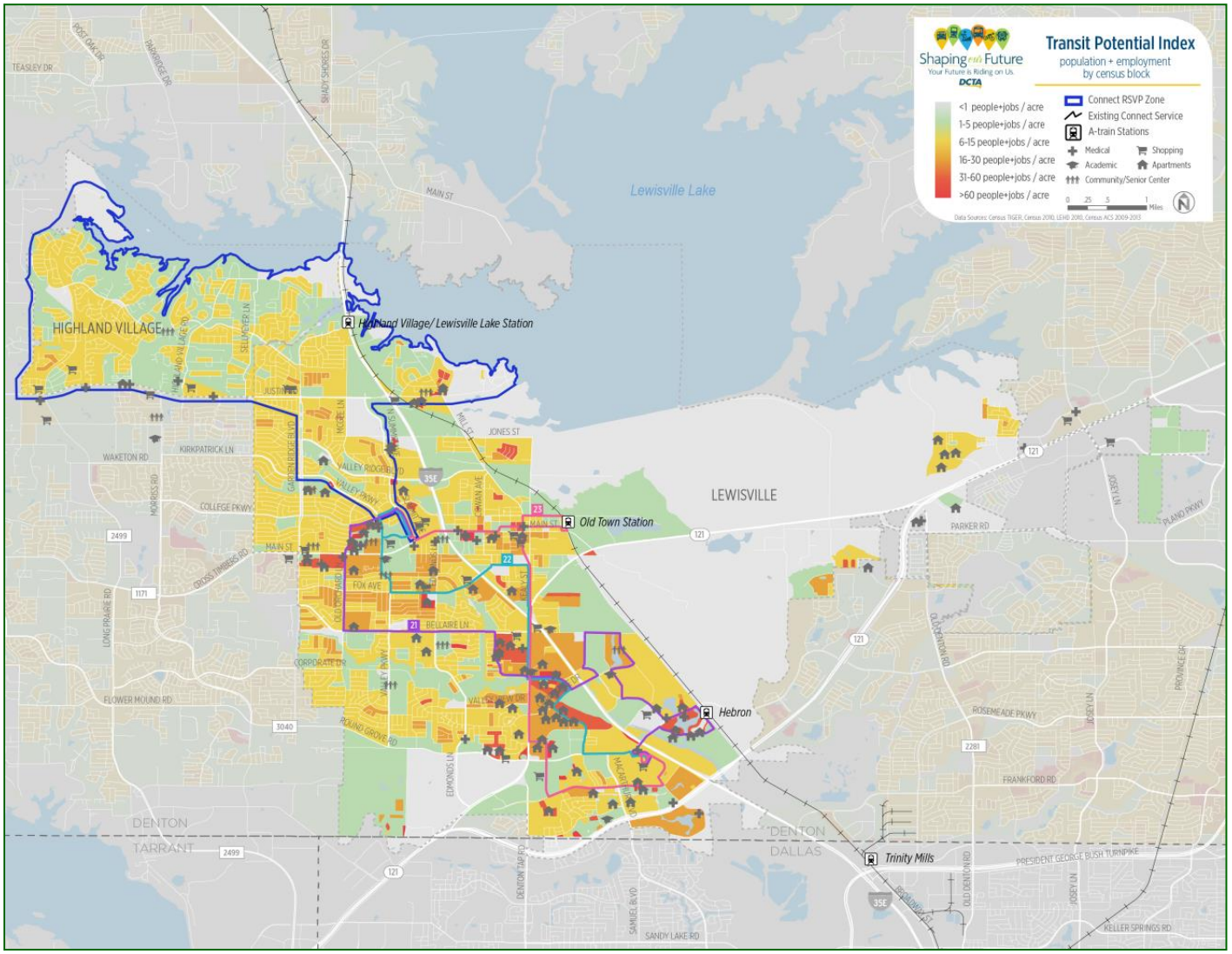
Old Town Station:

A-train (Northbound)	Route 23 (Southbound)	A-train (Southbound)
7:26	7:28	7:38
8:09	8:08	8:00
8:31	8:48	8:21
9:15	9:28	9:05
9:59	10:08	9:49
11:10	10:48	11:00

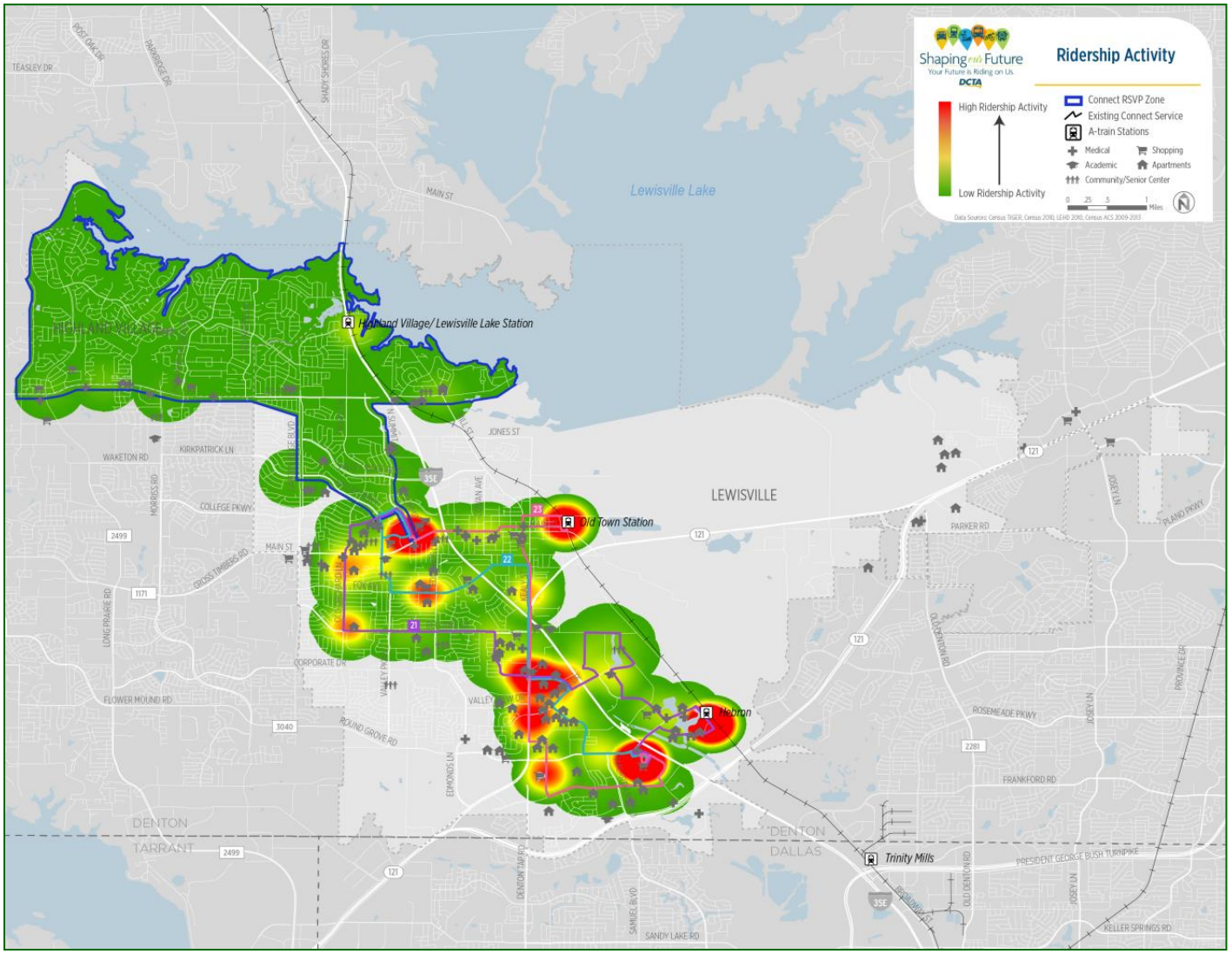
Other Factors Considered

- Market Analysis
  - Population and Employment density
  - Population characteristics
  - Land-use characteristics
  - Regional travel patterns
- Service Analysis
  - Ridership
  - Productivity
  - On-time Performance
- Stakeholder Input
  - Riders
  - Non-riders
  - Staff
  - Stakeholders

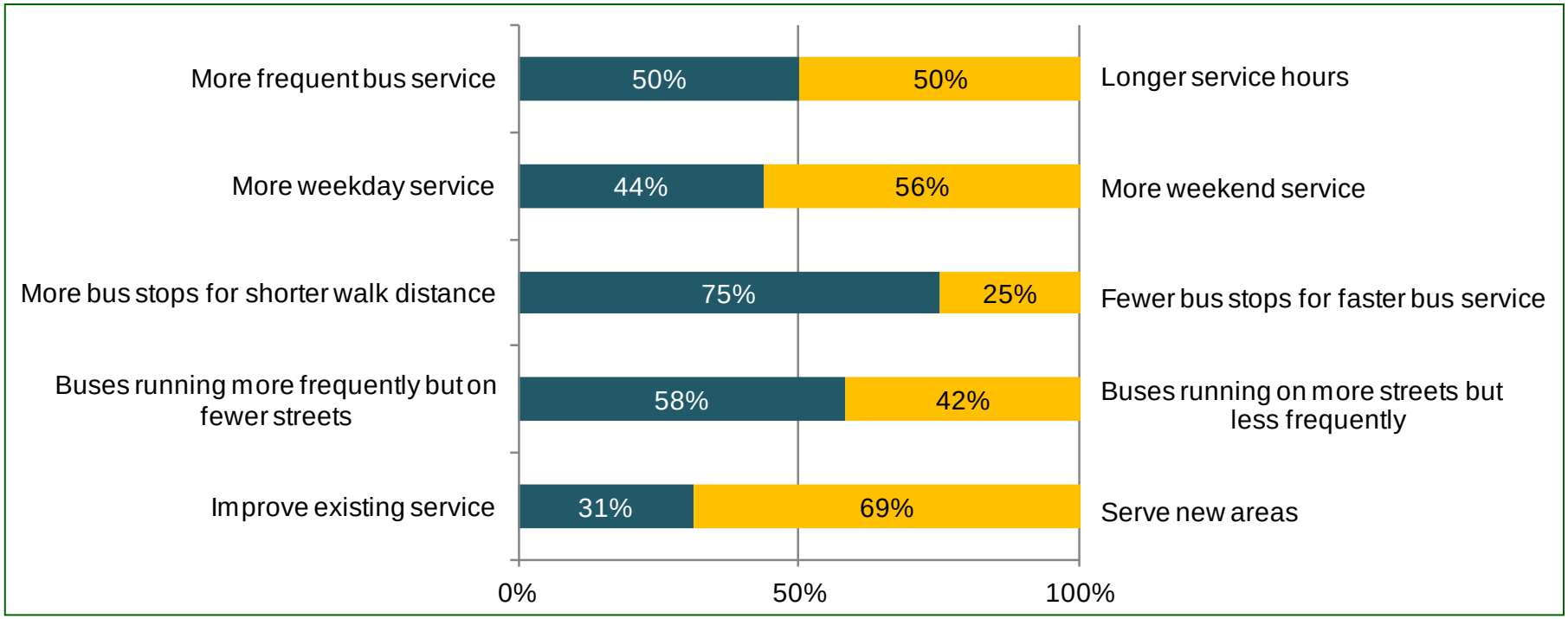
Market Analysis



Service Analysis



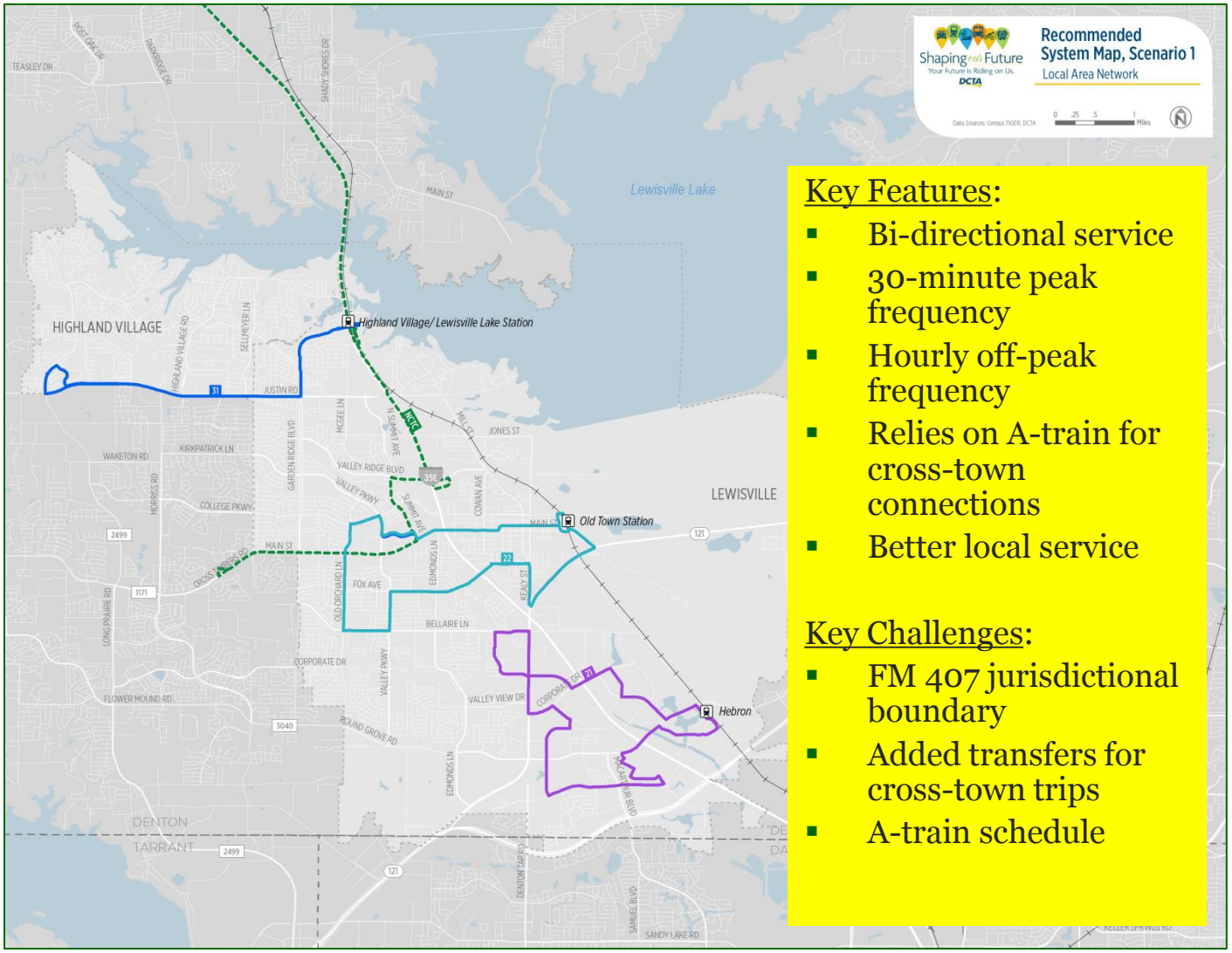
Stakeholder Input



Development of Service Alternatives

- Approach:
  - Follow guiding principals
  - Incorporate technical findings and stakeholder input
  - Recognize limitations of traditional service model
  - Provide options
    - Fixed Route
      - Scenario I: “Local Area Network”
      - Scenario II: “Cross-Town Network”
    - On-Demand /Flex
      - Several possible approaches to demand-response service

Scenario I: "Local Area Network"



Key Features:

- Bi-directional service
- 30-minute peak frequency
- Hourly off-peak frequency
- Relies on A-train for cross-town connections
- Better local service

Key Challenges:

- FM 407 jurisdictional boundary
- Added transfers for cross-town trips
- A-train schedule

Frequency and Clock-Face Schedules

Route 21 @ :30	A-train @ :20
7:00	7:00
7:30	7:20
	7:40
8:00	8:00
8:30	8:20
	8:40
9:00	9:00
9:30	9:20
	9:40
10:00	10:00
10:30	10:20
	10:40
11:00	11:00

Max wait time from bus to train: **10 minutes**
Max wait time from train to bus: **20 minutes**

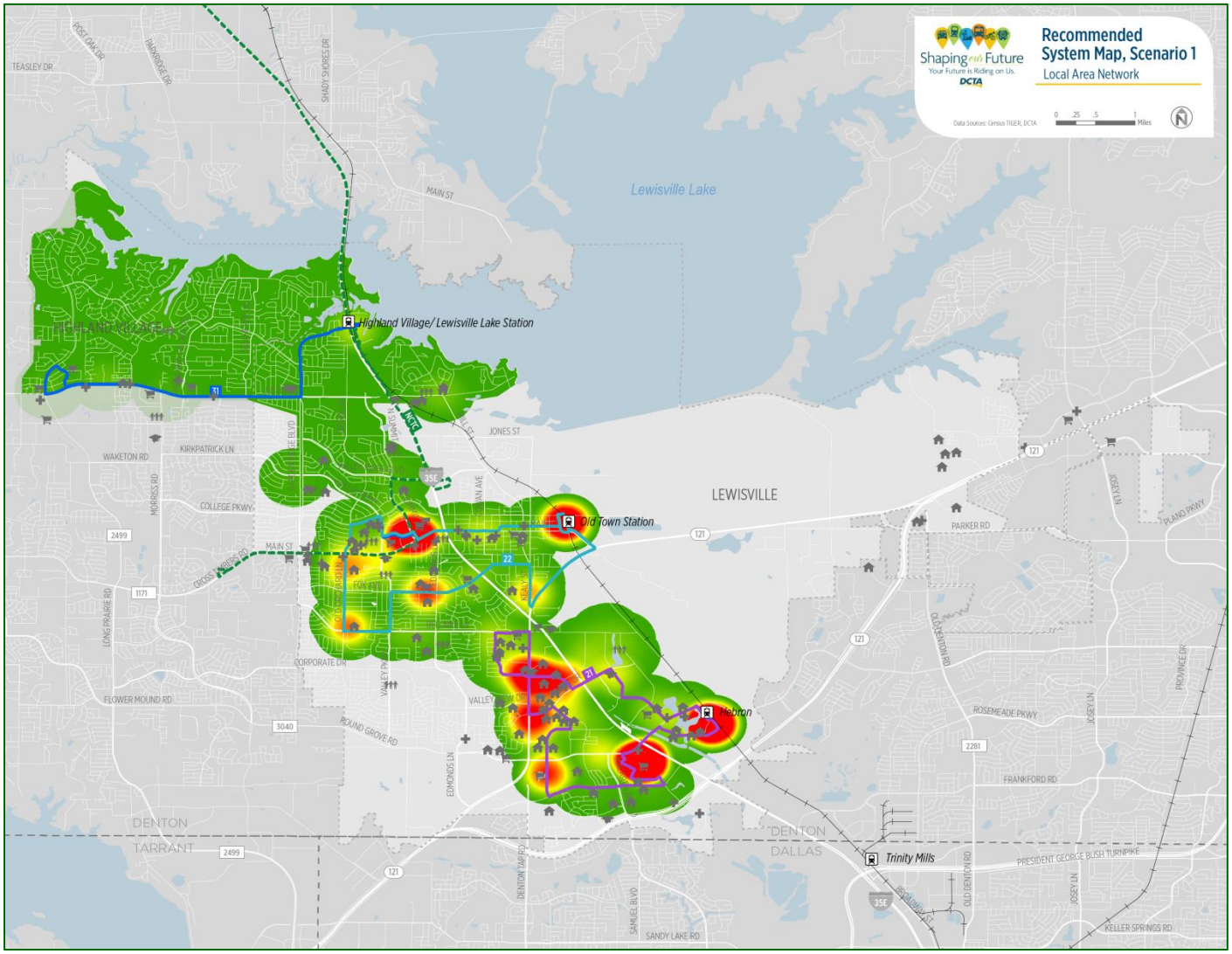
Route 21 @ :30	A-train @ :22
7:00	7:00
7:30	7:22
	7:44
8:00	8:06
8:30	8:28
	8:50
9:00	9:12
9:30	9:34
	9:56
10:00	10:18
10:30	10:40
	11:02
11:00	11:24

Max wait time from bus to train: **22 minutes**
Max wait time from train to bus: **30 minutes**

Route 21 @ :42	A-train @ :22
7:00	7:00
	7:22
7:42	7:44
	8:06
8:24	8:28
	8:50
9:06	9:12
	9:34
9:48	9:56
	10:18
10:30	10:40
	11:02
11:12	11:24

Max wait time from bus to train: **22 minutes**
Max wait time from train to bus: **42 minutes**

Scenario I: "Local Area Network"

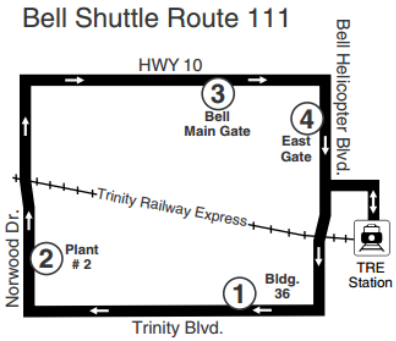


Employer Shuttles

- Complement major transit investments by providing "first/last mile" connections
  - Large employment sites of regional significance may be close to a station, but too far or difficult to walk to
  - Employment sites may be difficult to serve cost-effectively with regular transit due to layout or location
  - Demand for service may be limited to a few scheduled shift changes during the day

Employer Shuttles

- Designed around the mobility needs of a specific employer or group of employers
  - Direct link between employment site and transit station
  - Can be tailored to the schedule needs of employees (i.e. service during peak periods of major shift changes only)
  - Often partially or fully funded by employers or developers
  - Shuttles can be used by the general public as well
  - Can be funded/organized by a single employer, or by a Transportation Management Association (TMA) formed by a group of employers



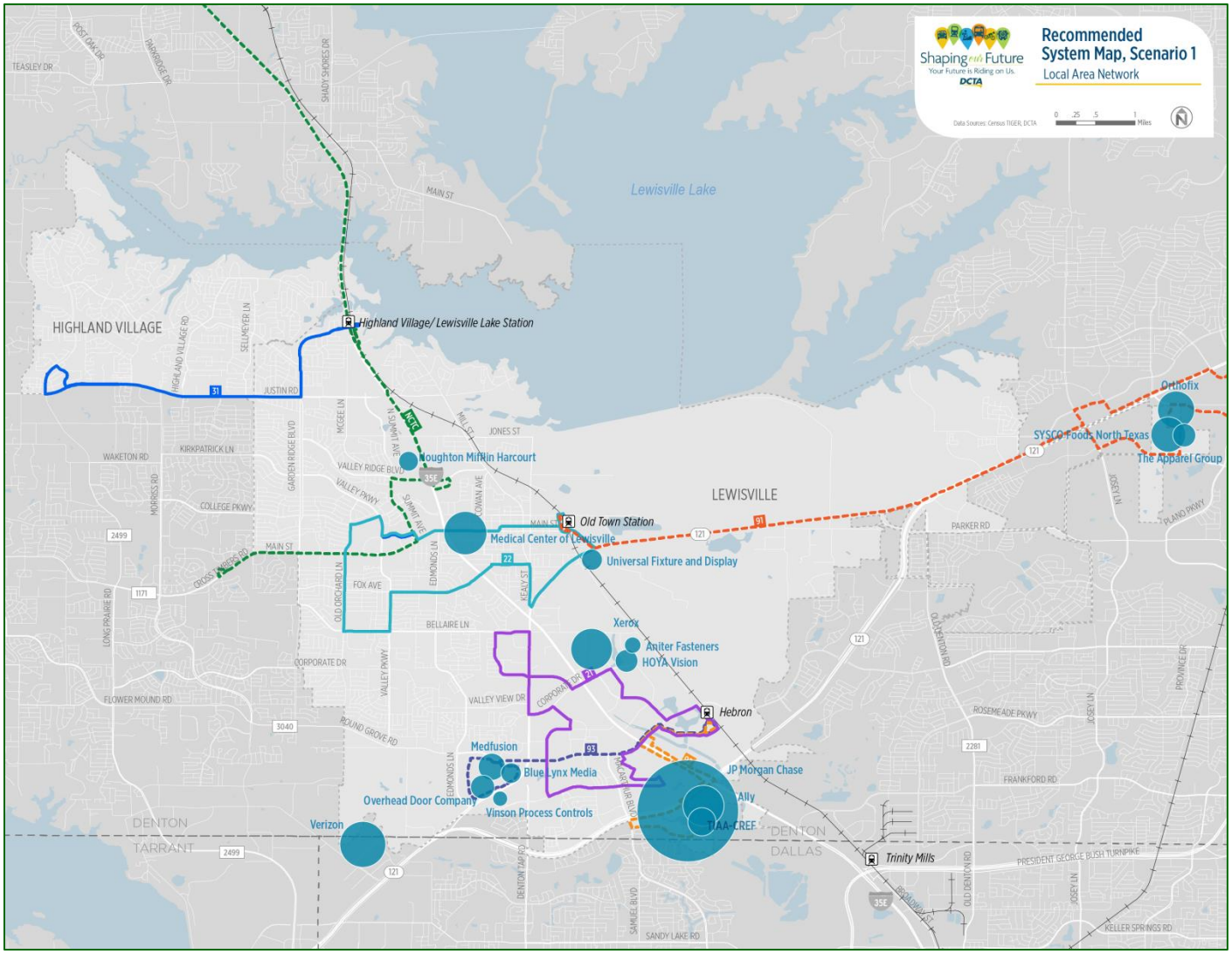
FROM TRE (Weekday A.M.)
Buses leave these timepoints at times listed below:

	TRE	1 Bldg. # 36	2 Plant # 2	3 Main Gate	4 East Gate
AM	5:59	6:02	6:05	6:10	6:13
	6:29	6:32	6:35	6:40	6:43
	6:57	7:00	7:03	7:07	7:11
	7:12	7:15	7:18	7:22	7:26
	7:27	7:30	7:33	7:36	7:41
	7:41	7:44	7:47	7:52	7:55
	8:02	8:05	8:08	8:13	8:14

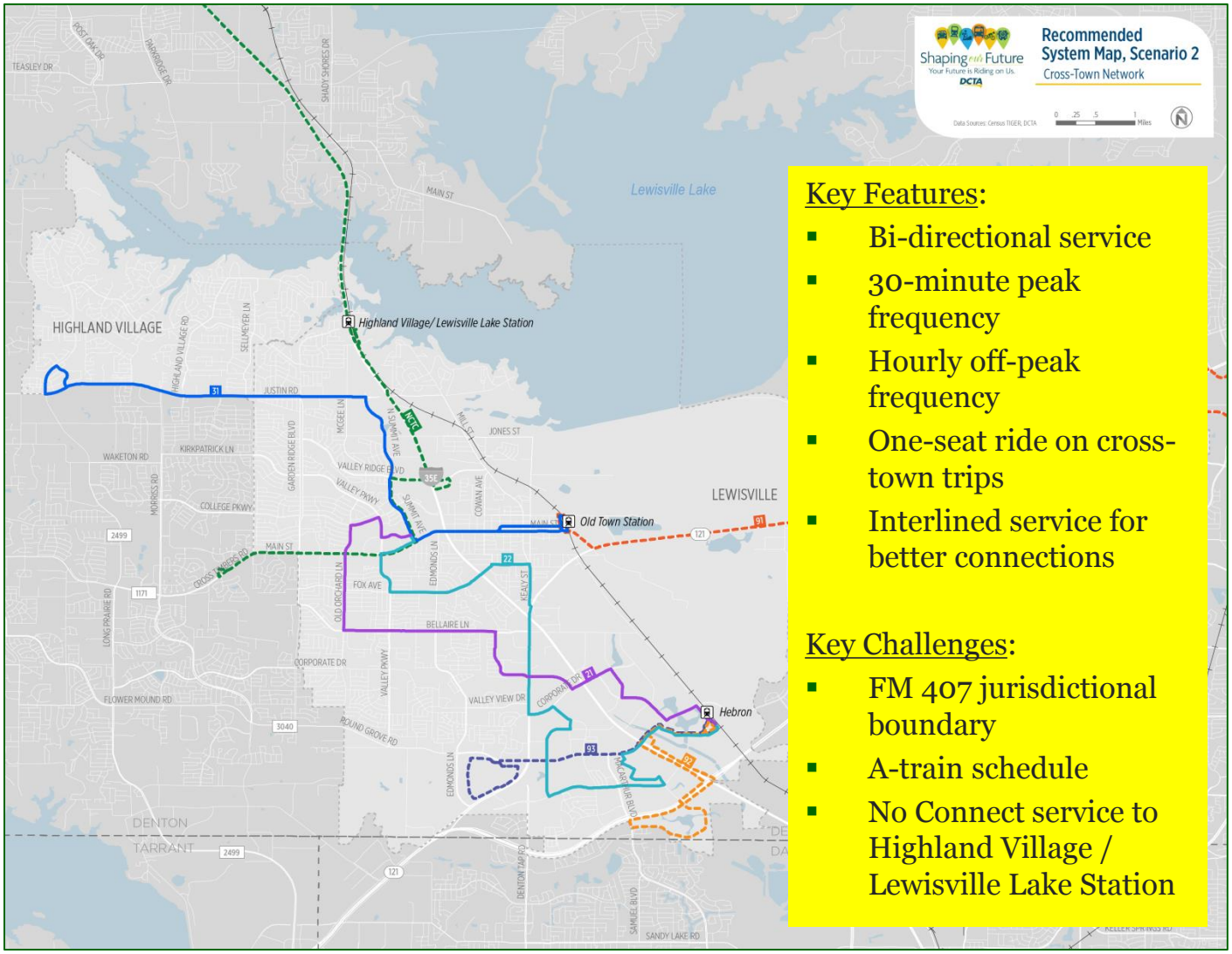
TO TRE (Weekday P.M.)
Buses leave these timepoints at times listed below:

	1 Bldg. # 36	2 Plant # 2	3 Main Gate	4 East Gate	TRE
PM	3:38	3:41	3:47	3:52	3:55
	4:10	4:12	4:16	4:22	4:25
	4:37	4:39	4:46	4:51	4:54
	5:00	5:03	5:07	5:11	5:14
	5:14	5:17	5:23	5:27	5:30
	5:41	5:45	5:48	5:53	5:56

Scenario I: "Local Area Network"



Scenario II: "Cross-Town Network"



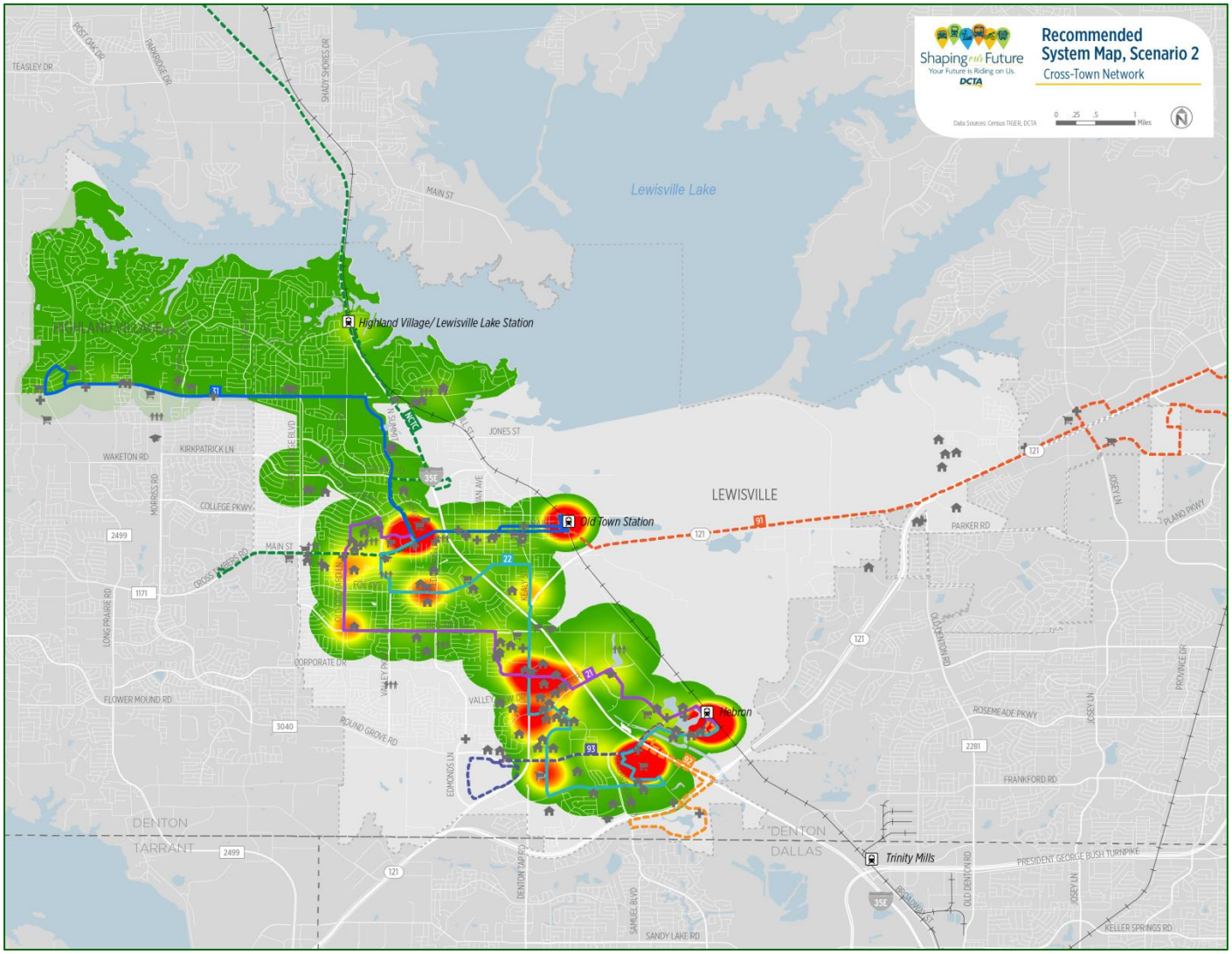
Key Features:

- Bi-directional service
- 30-minute peak frequency
- Hourly off-peak frequency
- One-seat ride on cross-town trips
- Interlined service for better connections

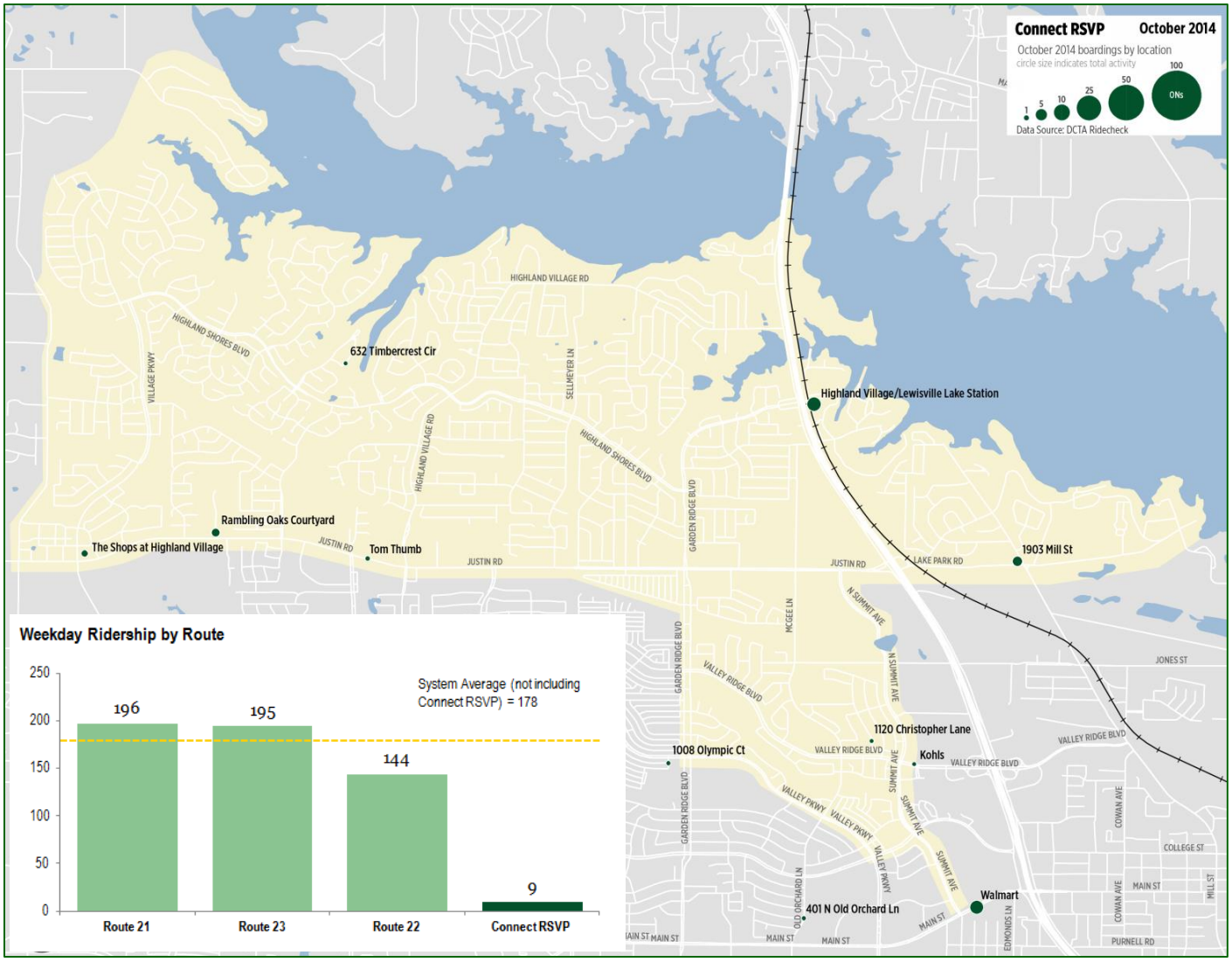
Key Challenges:

- FM 407 jurisdictional boundary
- A-train schedule
- No Connect service to Highland Village / Lewisville Lake Station

Scenario II: "Cross-Town Network"



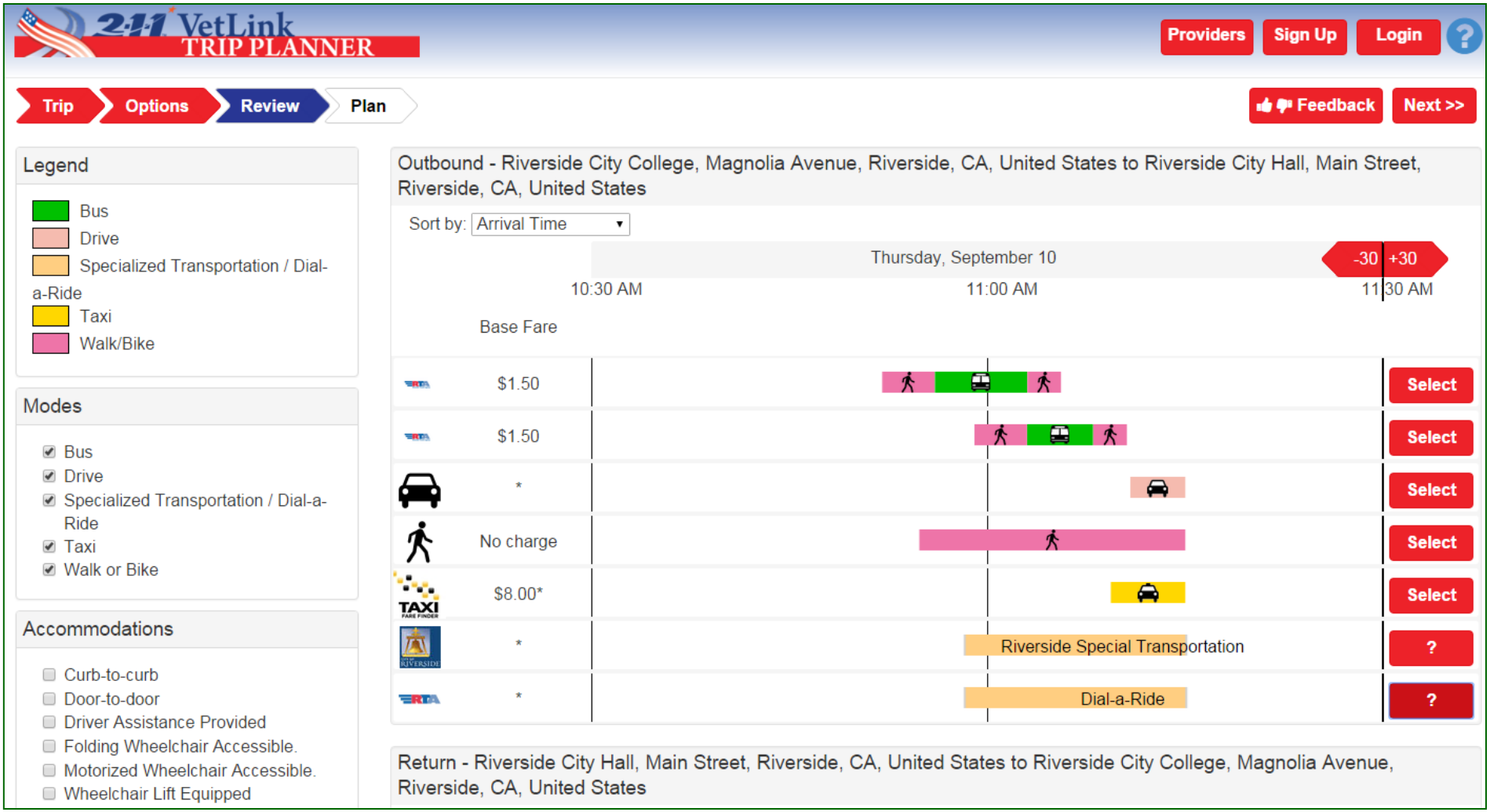
Options for Connect RSVP



Options for Connect RSVP

- Advances in technology since the launch of Connect RSVP in 2009 now offer previously unimagined opportunities for affordable and convenient on-demand/flex service
  - Choose where you are picked up
  - Choose where you go
  - Choose when you ride
  - Choose service type
  - Choose from various pricing options
  - Mobile payment and trip planning
  - “One stop shopping” for all your mobility needs

Options for Connect RSVP



Options for Connect RSVP

- Given the choice, would you prefer fixed-route or on-demand/flex service in your community?
- Are you open to the idea of short deviations to facilitate additional passenger pick-ups?
- What is a reasonable wait-time for on-demand/flex service?

Options for Connect RSVP

- If the fare for fixed-route bus service is $1.25 per ride, would you expect on-demand/flex service to cost more or less?

- If fast, flexible, and convenient on-demand/flex service were available in your community, how would you use it (i.e. daily commuting, emergency back-up option, occasional outings, etc.)?

- If you could schedule recurring trips, would that change your response to the above question?

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