

North American LRT Status Update 2015

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13th National Light Rail & Streetcar Conference



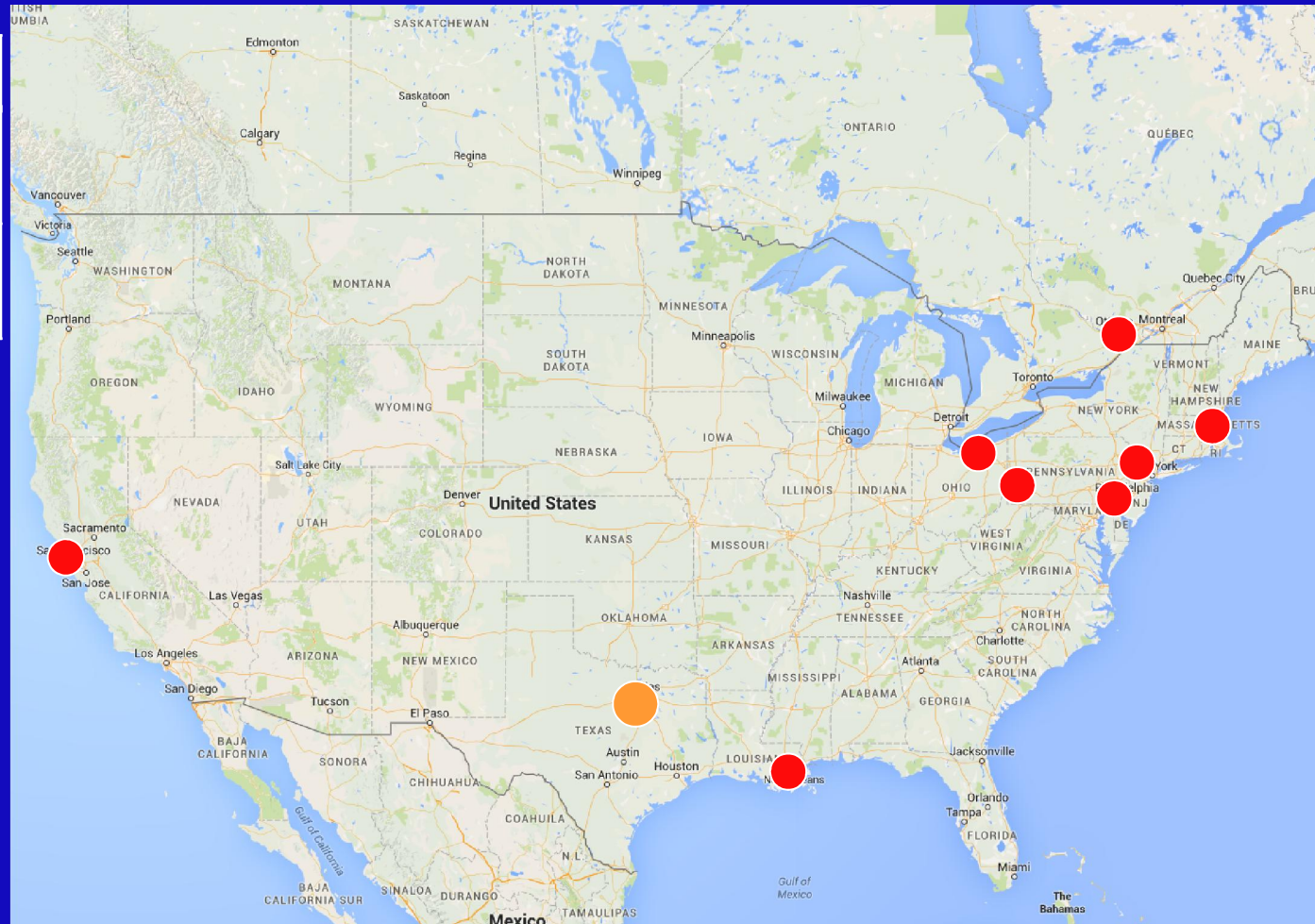
1975 – 9 Metro Regions (8 US + 1 Canada)

LRT

Legacy
(Still Operating)

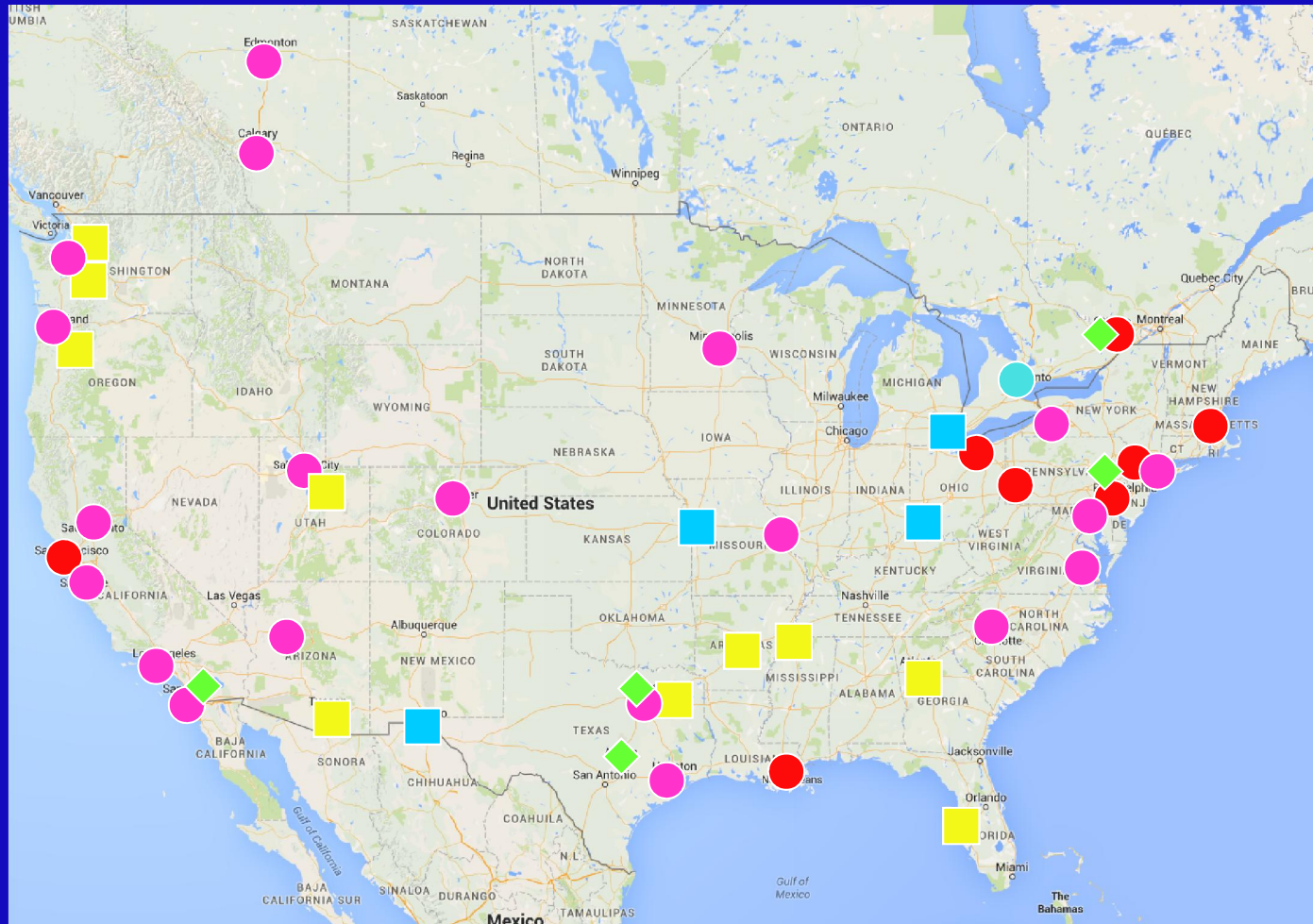


Legacy
(Out of Operation)



2015 - 38 Metro Regions (34 US + 4 Canada)

LRT	
Legacy	●
New Age	●
Committed New (Under Construction)	●
Streetcar	
Modern	■
Committed New (Under Construction)	■
Light DMU	
Modern	◆
Committed New (Under Construction)	◆





Low Floor, Low Platform
(Portland, Houston)



High Floor, High Platform
(Los Angeles)

“NEW AGE” LIGHT RAIL

Edmonton (1978)

Extensions South & North

Miles

13.1

LRVs

70

AWR

100,760

- 2.8 mi Churchill to NAIT (2015-2016)
- Future: Valley (SE-West), Capital, Metro Lines



Calgary (1981) Adding New Lines

Miles

34.3

LRVs

160

AWR

280,000

- West (5.2 mi) – 2012
- NW (1.5 mi) – 2014
- Planned: Southeast to North w/LFLRVs



San Diego (1981) Renews & Restructures

Miles

52.5

LRVs

152

AWR

128,000

- Green Line extended to CBD
- Blue Line Infrastructure renovation
- Mid-Coast (10.7 mi), in design for 2018



Old Town Trolley-Coaster Transfers



Portland (1986) More MAX

Miles

59.6

LRVs

135

AWR

123,000

- 2015 – Milwaukie MAX, 7.3 mi



Sacramento (1987) More LRT Coming

Miles

40.3

LRVs

76

AWR

46,300

- 21 renovated ex-VTA cars coming soon
- South (4.3 mi) to Cosumnes River Col - 2015
- DNA (12 mi) to airport - Future



San Jose (1987)

Prepared for NFL, Connecting with BART

Miles

42.2

LRVs

100

AWR

35,600

- System Enhancements:
 - Limited Express Service in peaks
 - Levi's Stadium line improvements



LA (1990)

Growth Continues

Miles

70.2

LRVs

172

AWR

198,800

- Today: Blue-Green-Gold-Aqua
- Extensions:
 - Expo Phases 1 & 2, 16.3 mi, 2015
 - Montclair, 11.5 mi, 2015-16
 - Central Connector, 1.9 mi, 2020



78 Kinki Sharyo LRVs



Baltimore (1992)

Miles

29

LRVs

53

AWR

24,900

- Baltimore: Red Line LRT (canceled)



St. Louis (1993)

Miles

45.5

LRVs

87

AWR

+69,800

- 8.0 mi, \$678 million, Forest Park-Clayton-Shrewsbury, 22 LRVs, opened 2006



Denver (1994)

Growth Continues

Miles

34.7

LRVs

172

AWR

58,100

- West LRT: 12 mi, opened 2013
- I-225 LRT Extension: 10.5 mi, 2016
- FasTracks: 119 mi LRT/Commuter Rail



Dallas (1996) Doubled Again

Miles

95

LRVs

163

AWR

93,200

- System doubled after 1996 opening
- SE, NW & West extensions doubled again
- Entire fleet stretched



Salt Lake (1999)

From Line to Network

Miles

35.7

LRVs

146

AWR

64,000

- Extensions Open:
 - S. Jordan (10 mi)
 - W. Valley (5 mi)
 - Airport (6 mi)
 - Draper (4 mi)
 - Sugar House (2 mi)
- 77 Low Floor (S-70) LRVs
 - Transitioning to Level Boarding



Hudson-Bergen (2000)

Miles

15.1

LRVs

57 (52?)

AWR

42,000

- North to Englewood? (Tenafly, Closter later?)
- South to Staten Island?



Houston (2004) More Lines Opened

Miles

7.5

LRVs

18

AWR

42,900

- Adding 40 miles, 5 branches
- Red-North, Green, Purple 2014-15
- Buying 19 Siemens & 39 CAF LFLRVs



© 2004 Peter Ehrlich

Hiawatha (2004) Next: Southwest

Miles

23.1

LRVs

27

AWR

34,300

- 39% of riders are new to transit
- Openings: Central – 2014, Southwest – 2018
- Future: Bottineau LRT? Minneapolis & St. Paul streetcars?



Charlotte (2007) Lynx South Line

Miles

9.6

LRVs

20

AWR

16,00+

- Northeast Extension, 11 miles, by 2016
- More LRT, streetcar, commuter rail planned



Phoenix (2008) East Valley LRT

Miles

19.6

LRVs

50

AWR

45,000+

- All Low-Floor LRVs
- Central Mesa Open 2015, Gilbert Rd 2018
- 3.1-mi Northwest extension to open 2016
- Future lines for 66-mi system by 2034



Seattle (2009) Central Link

Miles

14.5

LRVs

65

AWR

36,000

- LRT in Sound Transit's regional program:
- University Link (3.5 mi), 2016
- UW-Nortgate Link (4.3 mi), 2021
- Further LRT Lines North-East-South



Norfolk (2011) The Tide

Miles

7.4

LRVs

9

AWR

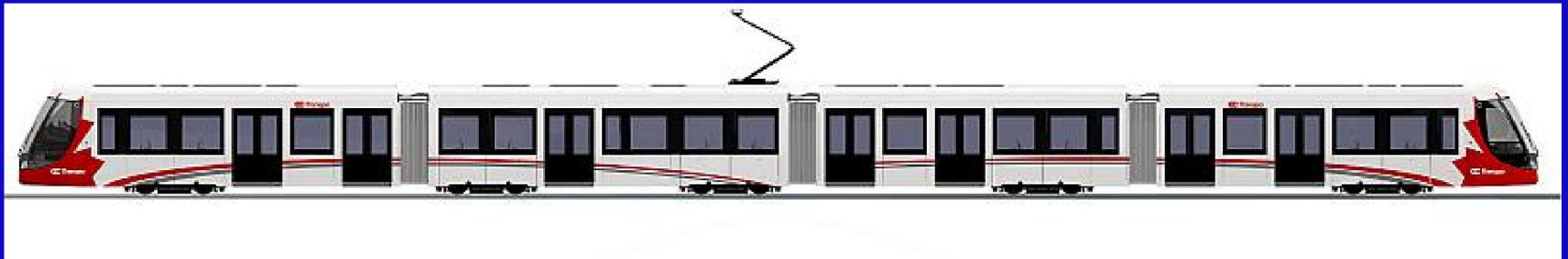
5,900

- 11 Stations currently
- Extensions planned at both ends
- Va. Beach ROW purchased; 2012 referendum



Ottawa, Canada Confederation Line

- Phase 1 (2018)
 - 7.7 miles total
 - 1.6 mile subway
- Phase 2 (2023)
 - 10.8 miles



Suburban Washington, DC Purple Line

- 16 miles
- Opening 2021
- Connecting:
 - Bethesda
 - Silver Spring
 - U of Md
 - New Carrollton
 - Amtrak NEC



Buffalo (1985) & Cleveland (1920)

Miles

6.4

LRVs

27

AWR

33,900

Buffalo Metro Rail



©2006 T. Kulmala

Cleveland RTA

- System Modernization:
 - Rebuilt Buckeye-Woodhill Station
 - Relocate Warrensville Road Terminus

Miles

15.4

LRVs

48

AWR

15,100



Brian Weinberg Photo



RRPictureArchives.NET Image Contributed by Bob Vogel

“LEGACY” LIGHT RAIL & STREETCAR SYSTEMS



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Boston

Rebuilds/Renews/Re-Equips Green Line Network

Miles

25.6

LRVs

216

AWR

222,000

- Lechmere-Medford: 4.3 mi, 2017 or Later



Newark

Miles

6.3

LRVs

16

AWR

17,000

- Penn Station (NY)-Broad St Station (Newark), 1.0 mi, 2006



Philadelphia Runs & Renews

Miles

42.5

LRVs

141

(+188

PCC Iis)

AWR

105,500

(2013)

- Annual Summer Maintenance “Blitzes”
- Procurement begun for new LFLRVs



Pittsburgh (2012) North Shore Connector

Miles

25

LRVs

83

AWR

28,600



Toronto

New Fleet, Restoring, Expanding

Miles

48.9

LRVs

248

AWR

286,000

- Procuring 204 LFLRVs
- Metrolinx building new LRT lines
- Buying new LFLRVs



New Orleans Restoring & Expanding

Miles

14.2

LRVs

66

AWR

20,600

- Extensions
 - NOUPT, 0.8 mi (2013)
 - French Quarter, 2.5 mi (2016)



San Francisco Muni Subway to Chinatown

Miles

30.7

LRVs

151

(+34

Streetcars)

AWR

223,200

- Central Subway, Phase 2, 1.6 mi, 2017
- E-Embarcadero Waterfront Service, 2015
- 2014 – Ordered 175 Siemens LRVs
- 2014 – Brookville to rebuild 13 more PCCs





STREETCARS MODERN & VINTAGE



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Memphis Main Street Trolley (1993)

Miles

7

Streetcars

20

AWR

2,900+

- Future Vision:
 - Re-start trolleys
 - 9-mile Airport line



Kenosha PCCs (2000)

Miles

0.9

Streetcars

8 (PCC)

AWR

200-300

- Downtown extension shelved, 2015



Portland Streetcar (2001) (Eastside, 2012)

Miles

10.6

Streetcars

16

AWR

18,500

- 2015 – Streetcars join Milwaukie MAX on new Tilikum Crossing over Willamette River



Tampa – Ybor City (2002) TECO Trolley

Miles

2.3

Streetcars

11

AWR

600

- 10 replicas, 1 S.T.



Little Rock River Rail (2004)

Miles

3.4

Streetcars

5

AWR

400

- 5 Replica Birneys
- Links Downtown Little Rock, N. Little Rock, Alltel Arena, Clinton Library



Tacoma & Seattle Streetcars

Miles

1.6

Streetcars

3

AWR

3,400



Tacoma Link (2003)

- Future: Stadium/MLK

Seattle SLU (2007)

- +7 vehicles ordered
- First Hill, 2.5 mi, 2015



Miles

1.3

Streetcars

3

AWR

2,400+

Tucson Modern Streetcar (2014) Sunlink

Miles

3.9

Streetcars

8

AWR

4,000



Atlanta Modern Streetcar (2014) Downtown Loop

Miles

2.7

Streetcars

4

AWR

TBD

- Planned Network include Peachtree Street, Belt Line & Other Lines



Dallas – Oak Cliff Modern Streetcar (2015)

Miles

1.6

Streetcars

2

AWR

TBD

- 2 vehicles +2 more vehicles ordered
- Union Station-Methodist Med Center
- Battery wireless across Houston St bridge
- Extensions planned on both ends



Charlotte “Gold Line” Streetcar (2015)

Miles

1.5

Streetcars

3

AWR

1,500

- Elizabeth Ave
- Phase 2: 2.5 miles by 2019
- Later phases up to 6.0 miles



More New Streetcar Projects

Coming Soon:

Length (mi)	# of Cars	Due
Washington, DC (H St NE)		
2.7	5	2015
Cincinnati, Streetcar		
3.6	5	2016
Detroit, M-1		
3.3	6	2016
Kansas City, Downtown		
2.0	4	2016



“In the Pipeline”

- Fort Lauderdale, Milwaukee, Los Angeles, Oklahoma City, Providence, Santa Ana & others





**“LIGHT” DIESEL MULTIPLE UNITS
CALL THEM “HONORARY LIGHT RAIL”?**

Ottawa (2001)

O-Train Rebuilds for Growth

Miles

5

DMUs

6

AWR

12,000

- Rebuilt/re-equipped for more frequent service
- 7.7-Mile LRT, 2018 Opening



South Jersey RiverLine (2004)

Miles

34

DMUs

20

AWR

9,200

- DMU/Freight - day/night time separation
- Camden-Trenton, Opened 2004



North San Diego Sprinter (2008)

Miles

22

DMUs

12

AWR

7,900



Austin MetroRail (2010)

Miles

32

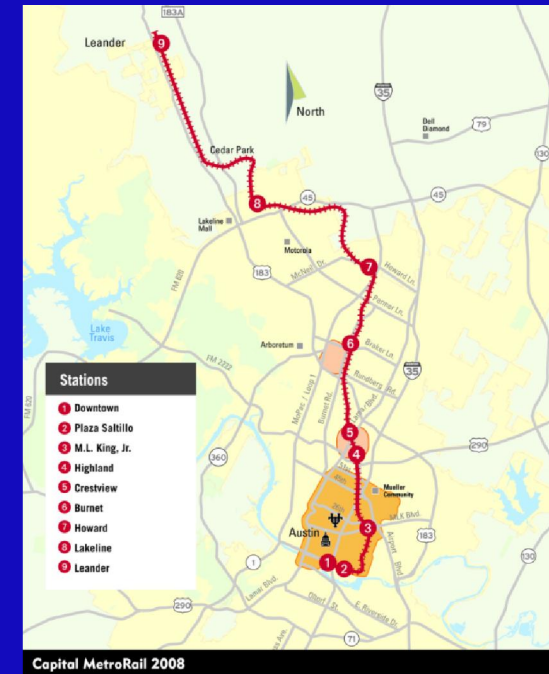
DMUs

6

AWR

1,700

- Elgin DMU Line?
- CBD-Capitol-UT Streetcars



Denton County A-Train (2011)

Miles

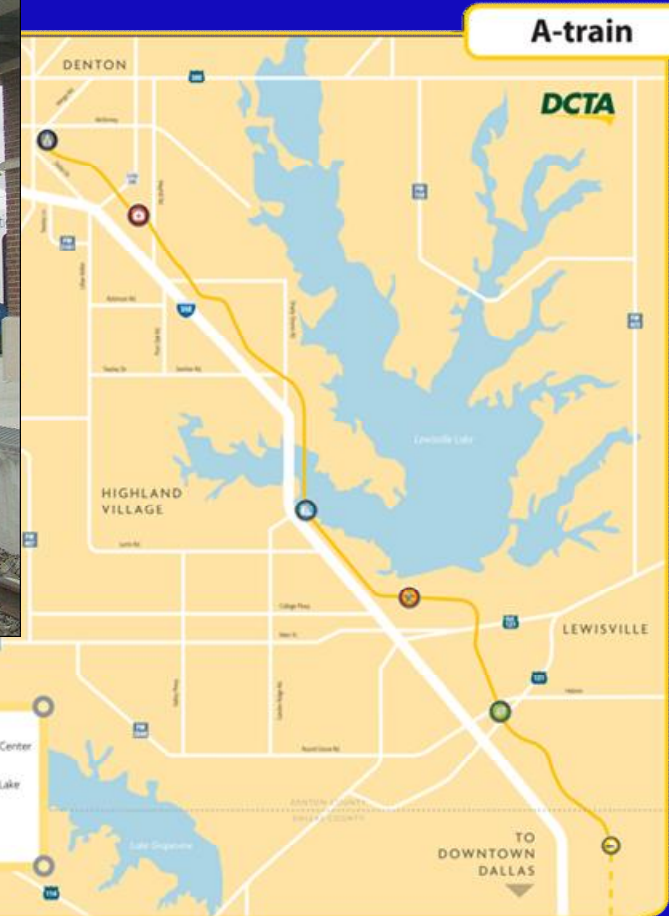
21

DMUs

11

AWR

1,400



What Does All This Show?

- After 40 years, Light Rail is thriving
- Permutations serve various niches:
 - Electric LRT linking cities and suburbs
 - Electric Streetcars as urban circulators
 - Light DMUs for longer, lower-cost start-up lines
- A place for every mode & every mode in its place

LRT, Streetcars, and Light DMUs *All Help Transform Urban Areas*





**THANK YOU &
ENJOY THE CONFERENCE!**



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