

LET'S MAKE BUSES MORE EFFICIENT

Mitchell Henke

@MitchellHenke



THE BUS IS AWESOME

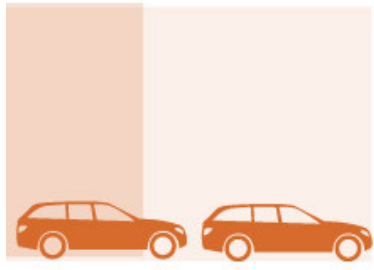
- MCTS Bus Rides in 2018: 30,429, 788
- Over 83,000 rides per day!



THE BUS IS IMPORTANT

- Many who cannot drive rely on public transportation
- People in poverty are more likely to take public transportation to work and less likely to own a car
- Long commute is one of the biggest barriers to escaping poverty

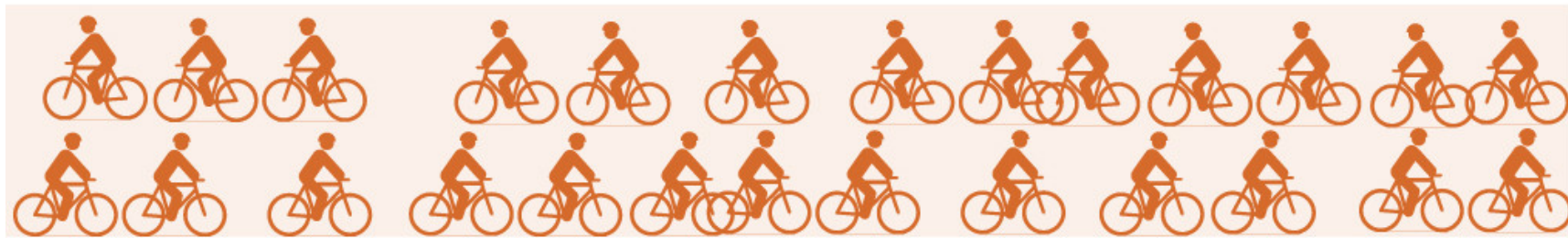
**THE BUS IS FOR
EVERYONE**



PRIVATE MOTOR VEHICLES
600–1,600/HR



MIXED TRAFFIC WITH FREQUENT BUSES
1,000–2,800/HR



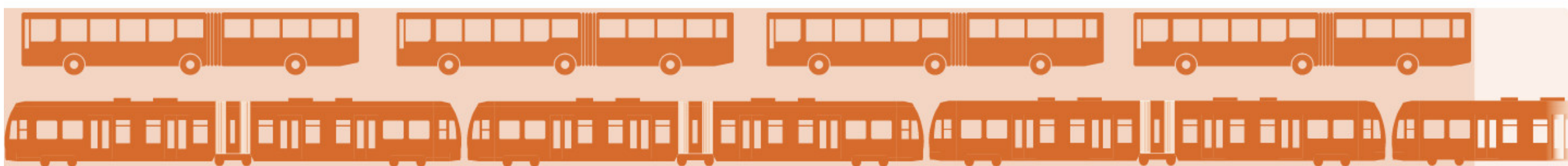
TWO-WAY PROTECTED BIKEWAY
7,500/HR



DEDICATED TRANSIT LANES
4,000–8,000/HR

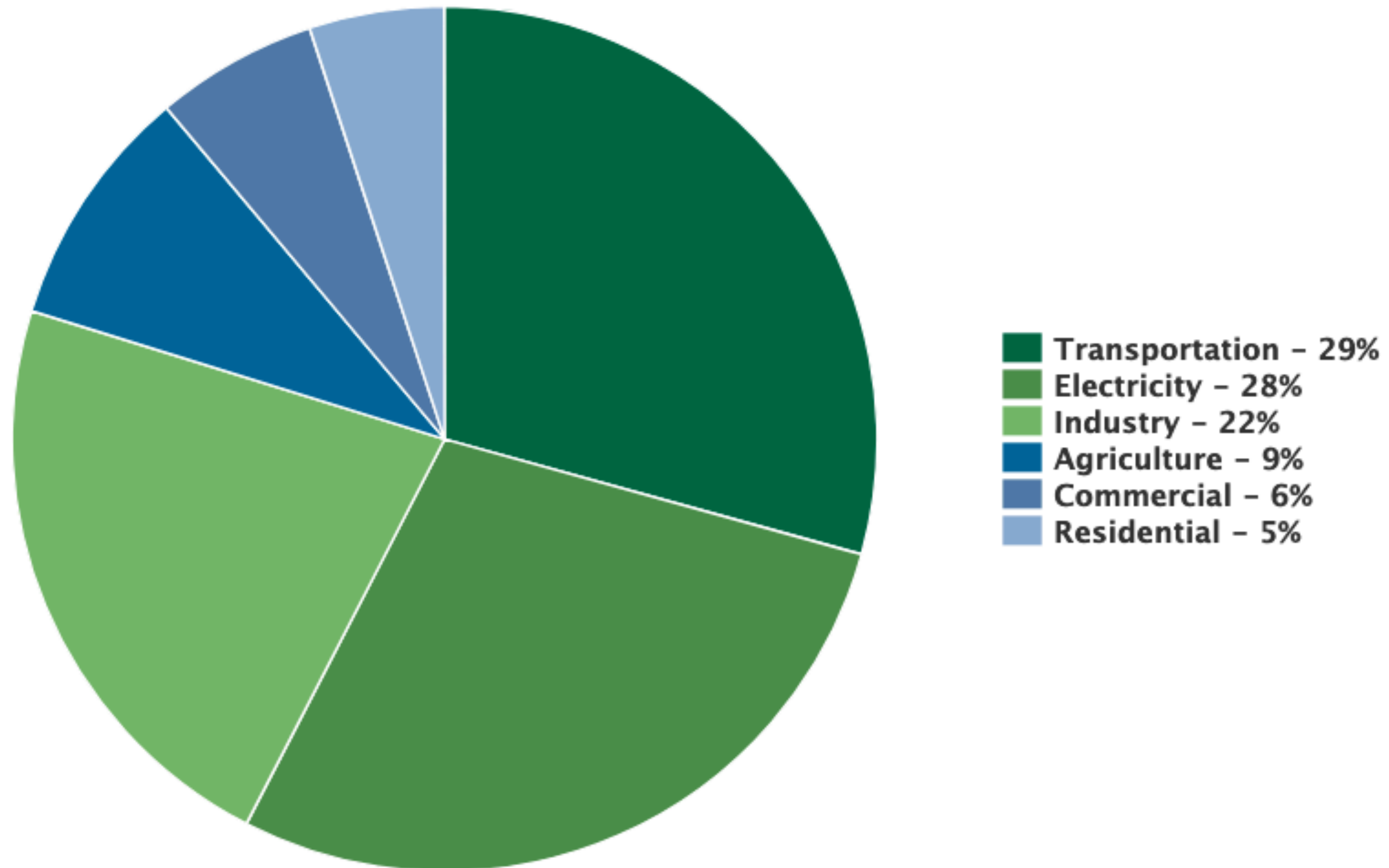


SIDEWALK
9,000/HR

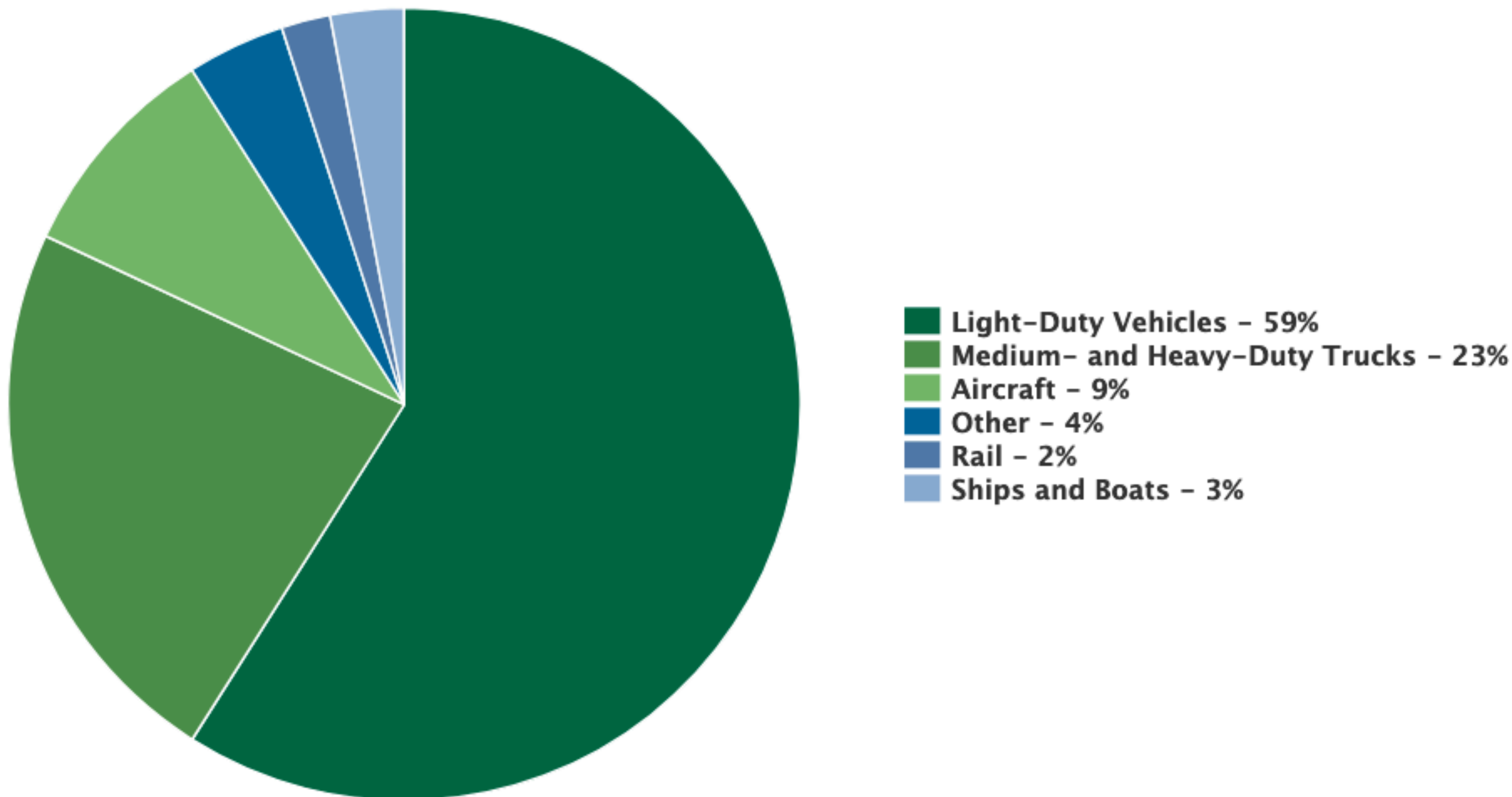


ON-STREET TRANSITWAY, BUS OR RAIL
10,000–25,000/HR

2017 U.S. GHG Emissions by Sector

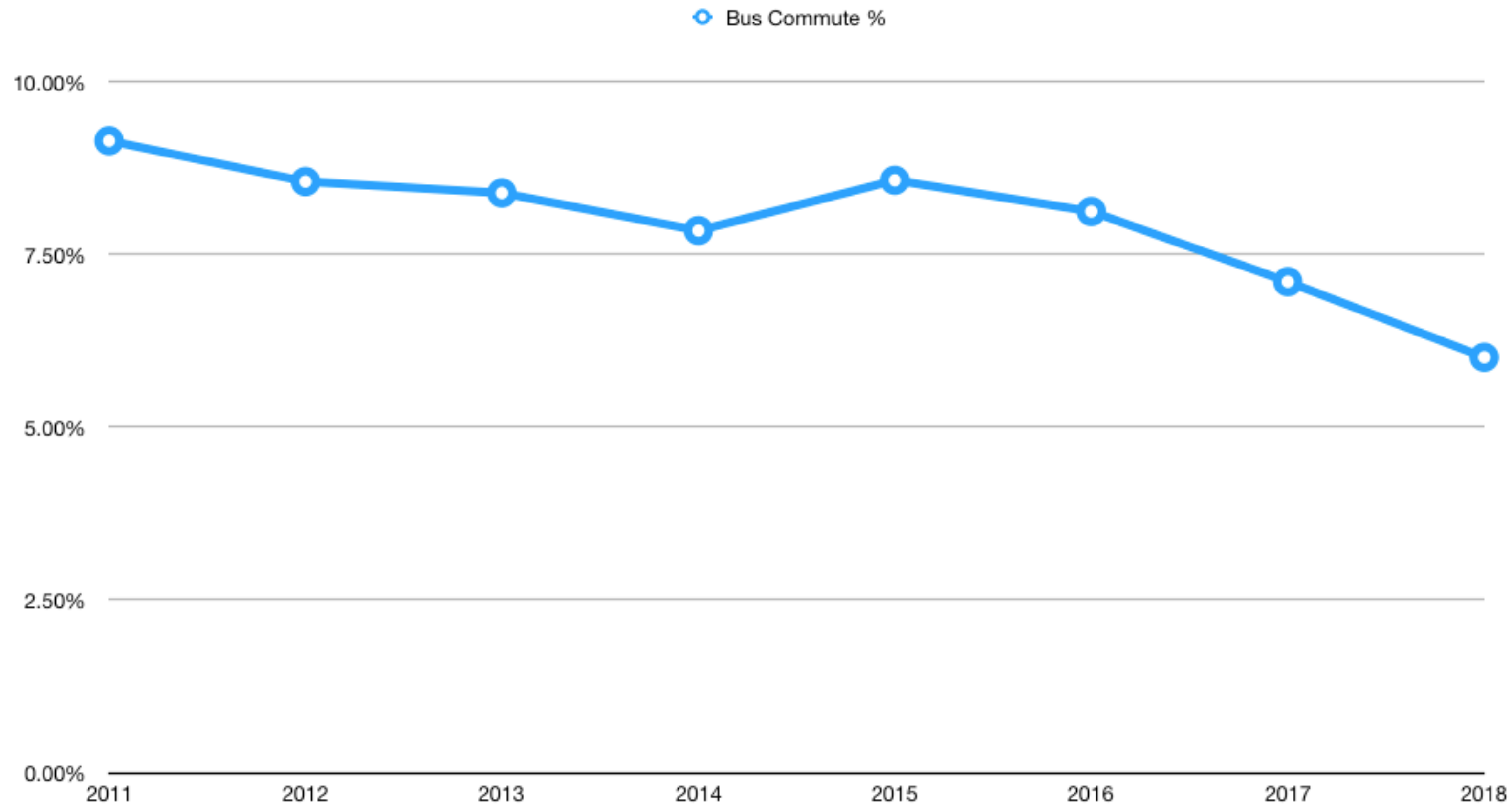


2017 U.S. Transportation Sector GHG Emissions by Source



MILWAUKEE BUS COMMUTING IS FALLING

-34% since 2011 😞



Source: American Community Survey

BUS SERVICE SUCCESS IS FEEDBACK-BASED

- **Strength and a weakness**
- **Worse service leads to less riders and revenue, which leads to more cuts**
- **Improving service leads to more riders and revenue, which can lead to even better service!**

**WHEN AND WHERE ARE OUR BUSES
SLOW?**

THE BUS SCHEDULE CAN TELL US!

EASTBOUND WEEKDAYS

Lincoln @ 112th	Lincoln @ 76th	Lincoln @ 35th	Lincoln @ 13th	Lincoln @ Howell	Bay @ Conway
5256 1	5270 2	5287 3	5298 4	1517 5	433 1
	5:04E	5:13	5:20	5:25	5:27
5:19	5:27	5:36	5:43	5:48	5:50
5:42	5:50	5:59	6:06	6:11	6:13
6:00	6:10	6:20	6:28	6:34	6:37
6:21	6:31	6:41	6:49	6:55	6:58
6:42	6:52	7:02	7:10	7:16	7:19
7:03	7:13	7:23	7:31	7:37	7:40
7:24	7:34	7:44	7:52	7:58	8:01
7:45	7:55	8:05	8:13	8:19	8:22
8:06	8:16	8:26	8:34	8:40	8:43
8:27	8:37	8:47	8:55	9:01	9:04
8:48	8:58	9:08	9:16	9:22	9:25
9:09	9:19	9:29	9:37	9:43	9:46
9:38	9:48	9:58	10:06	10:12	10:15
10:07	10:17	10:27	10:35	10:41	10:44
10:36	10:46	10:56	11:04	11:10	11:13
11:05	11:15	11:25	11:33	11:39	11:42
11:34	11:44	11:54	12:02	12:08	12:11
12:03	12:13	12:23	12:31	12:37	12:40
12:32	12:42	12:52	1:00	1:06	1:09
1:01	1:11	1:21	1:29	1:35	1:38
1:29	1:39	1:49	1:57	2:03	2:06
1:57	2:07	2:18	2:27	2:33	2:36
2:26	2:36	2:47	2:56	3:02	3:05
2:49	2:59	3:10	3:19	3:25	3:28
	3:12A	3:23	3:32	3:38	3:41
3:12	3:22	3:33	3:42	3:48	3:51
3:34	3:45	3:56	4:06	4:12	4:15
3:56	4:07	4:18	4:28	4:34	4:37
4:18	4:29	4:40	4:50	4:56	4:59
4:40	4:51	5:02	5:12	5:18	5:21
5:03	5:13	5:23	5:32	5:38	5:41
5:24	5:34	5:44	5:53	5:59	6:02
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7:25	7:34	7:43	7:51	7:56	7:59
7:50	7:59	8:08	8:16	8:21	8:24
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EASTBOUND WEEKDAYS continued

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10:10	10:18	10:27	10:34	10:39	10:42
10:46	10:54	11:03	11:10	11:15	11:18
11:22	11:30	11:39	11:46	11:51	11:54
11:59	12:07	12:16	12:23	12:28	12:31

NOTES: Boldface times are PM.
A = Operates only when school is in session. Leaves from 98th & Lincoln 3 minutes before time shown.
E = Leaves from 98th & Lincoln 3 minutes before time shown.

Making a Title VI Complaint

Any person who believes he/she has been subjected to discrimination in the delivery of or access to public transportation services on the basis of race, color or national origin, may file a complaint with Milwaukee County Transit System (MCTS). Such complaint must be filed in writing with MCTS no later than 180 days after the alleged discrimination. For information on how to file a complaint, contact MCTS as listed below:

MCTS Human Resources Department
1942 North 17th Street
Milwaukee, WI 53205
414-344-4550

WESTBOUND WEEKDAYS

Bay @ Conway	Lincoln @ Howell	Lincoln @ 13th	Lincoln @ 35th	Lincoln @ 76th	Lincoln @ 112th
433 1	5205 5	5215 4	5226 3	5243 2	5256 1
4:44	4:47	4:52	4:59	5:07	5:15
5:17	5:20	5:27	5:35	5:44	5:53
5:39	5:42	5:49	5:57	6:06	6:15
6:00	6:03	6:10	6:18	6:27	6:36
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12:17	12:20	12:27	12:35	12:45	12:55
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1:14	1:17	1:24	1:33	1:43	1:53
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11:24	11:27	11:33	11:40	11:48	11:55
11:58	12:01	12:07	12:14	12:22L	

NOTES: Boldface times are PM.
L = Arrives at Lincoln & National 3 minutes after time shown.

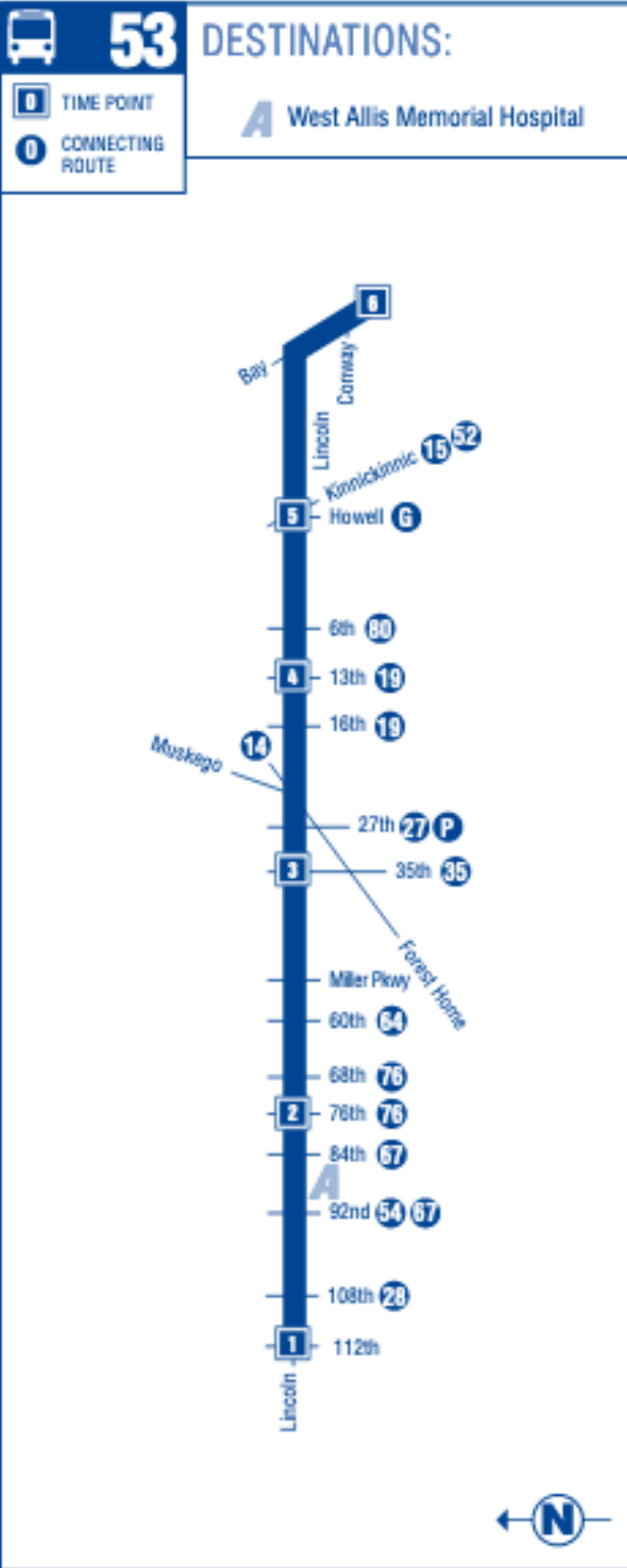
Simple as A to B

PLAN your trip
BUY your pass
RIDE to your destination



Ride MCTS app

Get it on Google Play | Download on the App Store



53

Lincoln Avenue



Effective Date:
March 11, 2018



Serving:
West Allis Memorial Hospital

West Allis
West Milwaukee

Service Hours:
Weekdays
4:44 AM - 12:31 AM
Saturdays
6:06 AM - 12:28 AM
Sundays/Holidays*
6:06 AM - 12:27 AM

Help us save a tree and save paper, please only take **ONE** timetable. For the most up-to-date route, schedule and fare information, visit:
RideMCTS.com
414-344-6711

***Holidays are:**
New Year's Day
Memorial Day
Fourth of July
Labor Day
Thanksgiving
Christmas

Information subject to change without notice.  Please recycle



MCTS Google Transit Feed

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6. MTS represents that the unmodified Data, as delivered by MTS, contains valid information for a specific period of time

The Bus Is Slower Than It Has to Be

The Milwaukee bus system takes people all over the city around the clock. Unfortunately, many of those buses have to move much slower than they could during periods of heavy vehicle congestion.

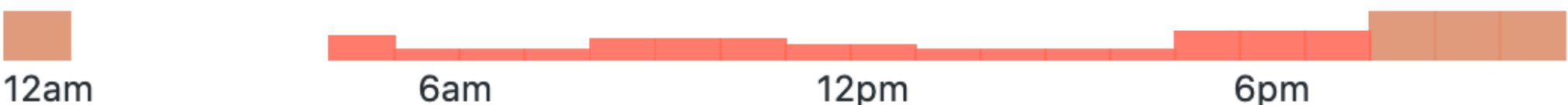
The charts below show how much slower the bus is relative to its fastest for each route throughout the day.

9-11 mph 12-13 mph 14-15 mph 16+ mph

12

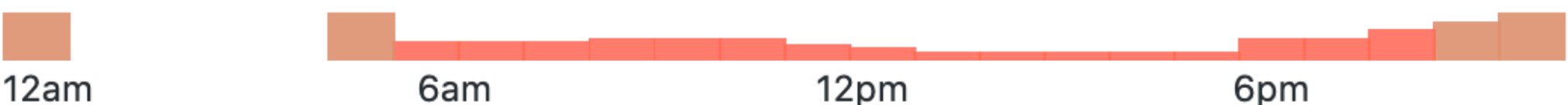
DOWNTOWN TO INTERMODAL

Fastest Trip: 10:53 PM - 13.2 mph
Slowest Trip: 05:05 PM - 10.4 mph (27% slower)



92ND-HAMPTON

Fastest Trip: 11:07 PM - 13.0 mph
Slowest Trip: 05:10 PM - 9.6 mph (35% slower)



54

NATIONAL/112TH - VIA MITCHELL-BURNHAM

Fastest Trip: 07:07 PM - 11.3 mph
Slowest Trip: 05:26 PM - 10.2 mph (11% slower)

UMOS VIA KK - VIA MITCHELL-BURNHAM

Fastest Trip: 00:35 PM - 10.8 mph
Slowest Trip: 04:21 PM - 10.5 mph (4% slower)

ROUTE 21

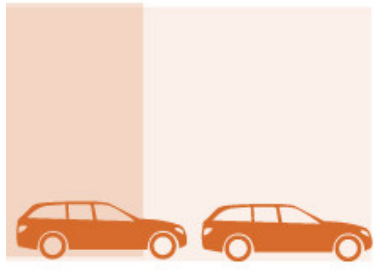
- 14.8mph at 10:50 PM
- 10.9 mph at 3:10 PM (26% slower)

ROUTE 15

- KK & Mitchell to 1st & National
 - 15.1 mph
- 1st & National to Water & Wisconsin
 - 9.1 mph (39% slower)

“Urban transportation is not just an engineering problem. First, it’s a geometry problem.”

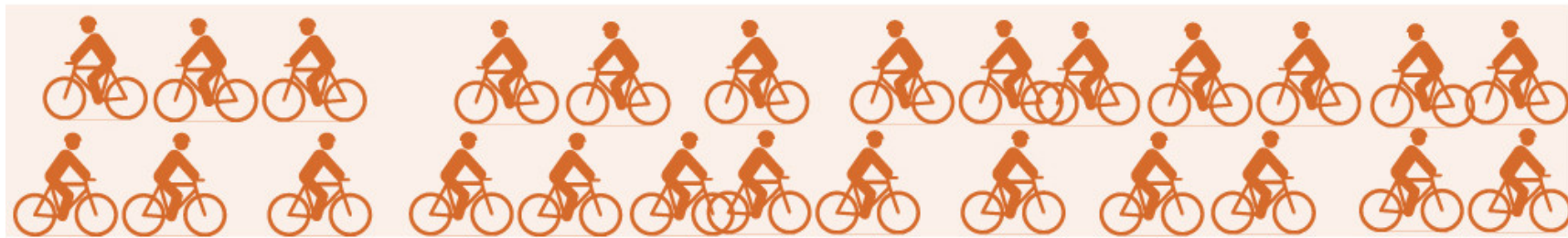
-JARRETT WALKER



PRIVATE MOTOR VEHICLES
600–1,600/HR



MIXED TRAFFIC WITH FREQUENT BUSES
1,000–2,800/HR



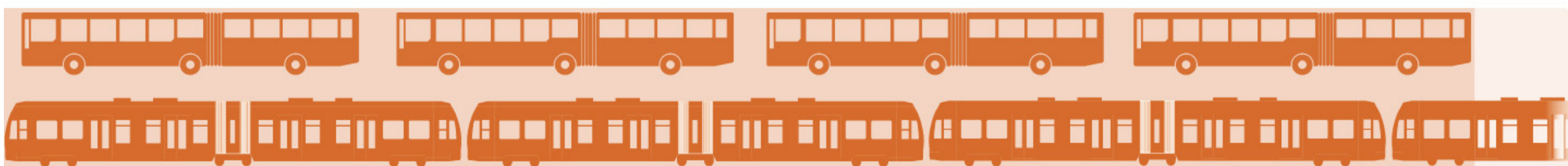
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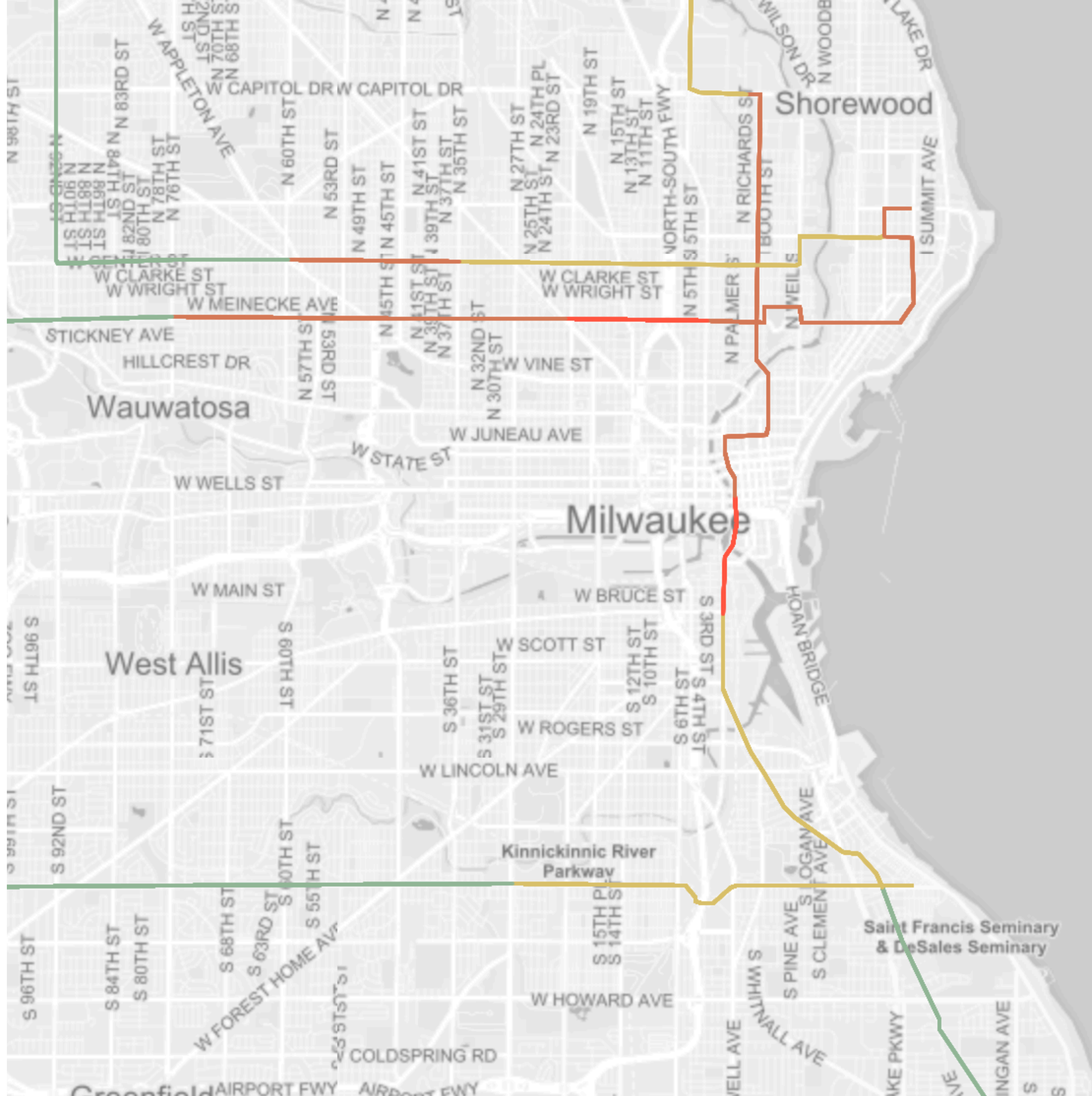
ON-STREET TRANSITWAY, BUS OR RAIL
10,000–25,000/HR



Source: <https://www.wbur.org/bostonomix/2019/06/24/bus-lanes-faster-boston-commutes>

BUS LANES

- Increase ridership
- Improve reliability
- Operational savings
 - DC saved 4% by increasing bus speed by 1 mph
- Cheap!
- Reduce congestion



OTHER STUFF TO LOOK AT

- MCTS Real-Time
 - Minute-by-minute bus movements
- What could we build with that information?

THANK YOU!

- Links

- <https://civics.mitchellhenke.com/transit>
- <http://busturnaround.nyc/report-cards>
- [https://transitalliance.miami/
campaigns/transit-time-index](https://transitalliance.miami/campaigns/transit-time-index)