Using Data (and lots of it) to Improve the Customer Experience

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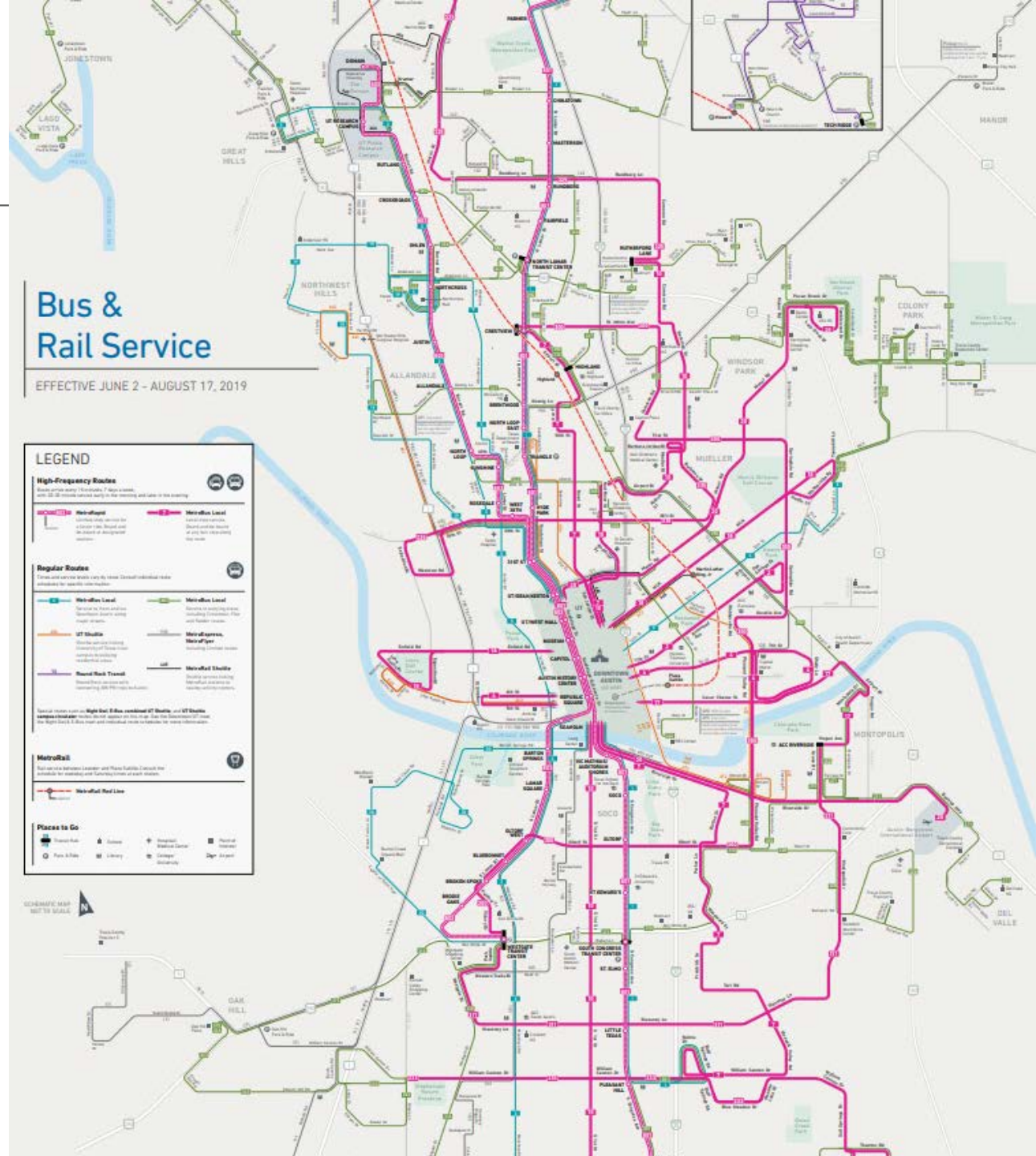
Overview

- About Capital Metro
- Data Collection
- Continuous Customer Experience Improvement
- Examples:
  - Overcrowding
  - Bus bunching
  - On-time performance
- Key Takeaways

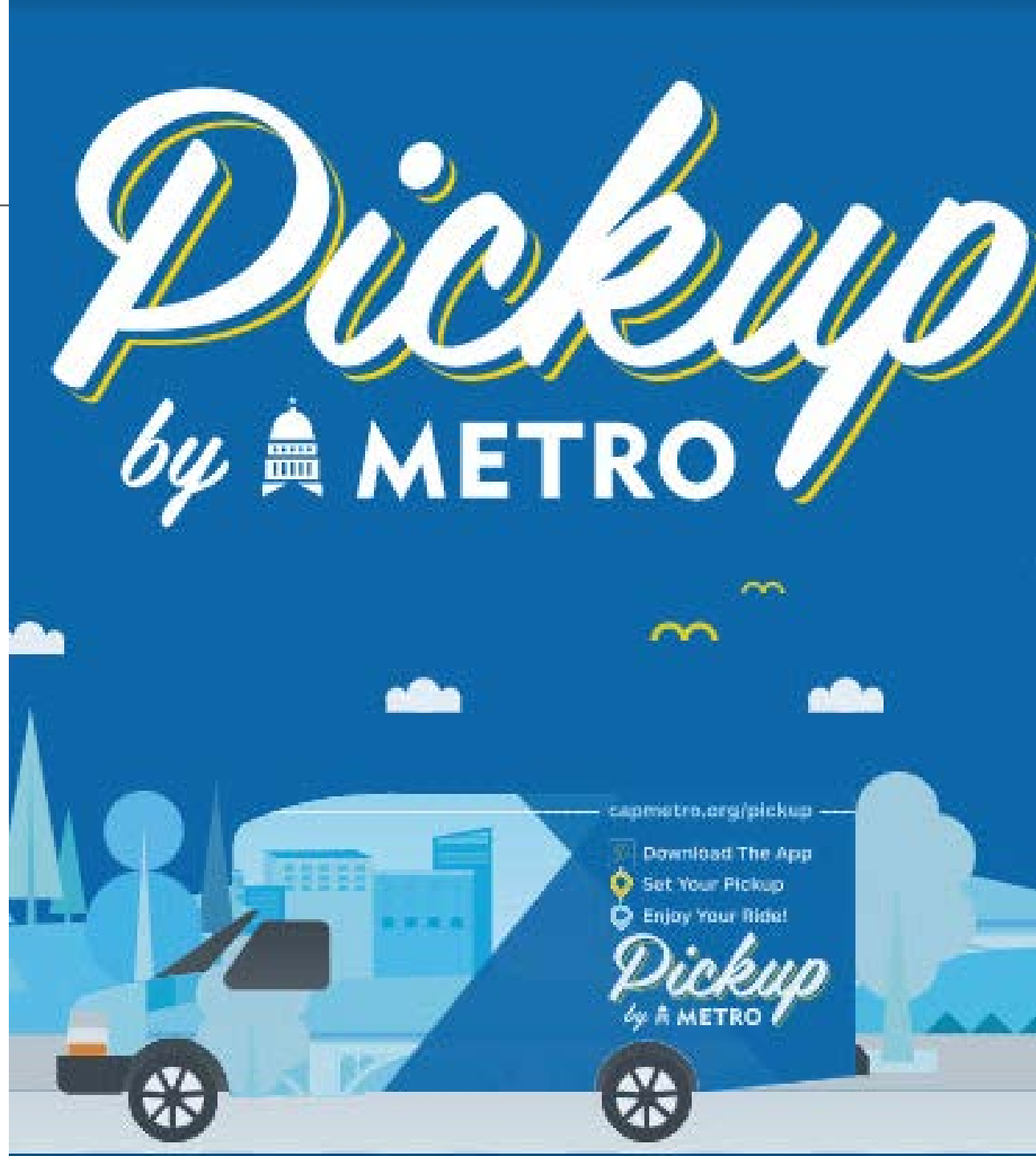
Capital Metro

- Regional public transit provider for the Austin metropolitan area
- Current Operations
  - Over 65 MetroBus routes
  - Two MetroRapid lines
  - One MetroRail line
  - 13 UT Shuttles
  - 18 Transit Centers / Park & Rides



Capital Metro

- Current Operations
  - Pickup app based shared ride service in specific zones
  - MetroAccess paratransit service for customers with disabilities
  - MetroRideShare vanpool service

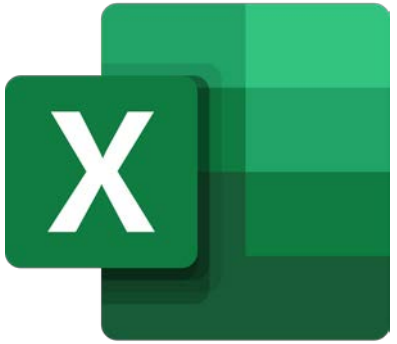


Data Sources

- Automated Passenger Counters
  - 100% Capital Metro buses
- Automated Vehicle Location
  - Refresh rate recently increased to every 10 seconds

Lots of Data

Data Analysis Tools



Microsoft Excel

R Statistical

Swiftly

ESRI Insights

Microsoft Power BI

Big Changes at Capital Metro

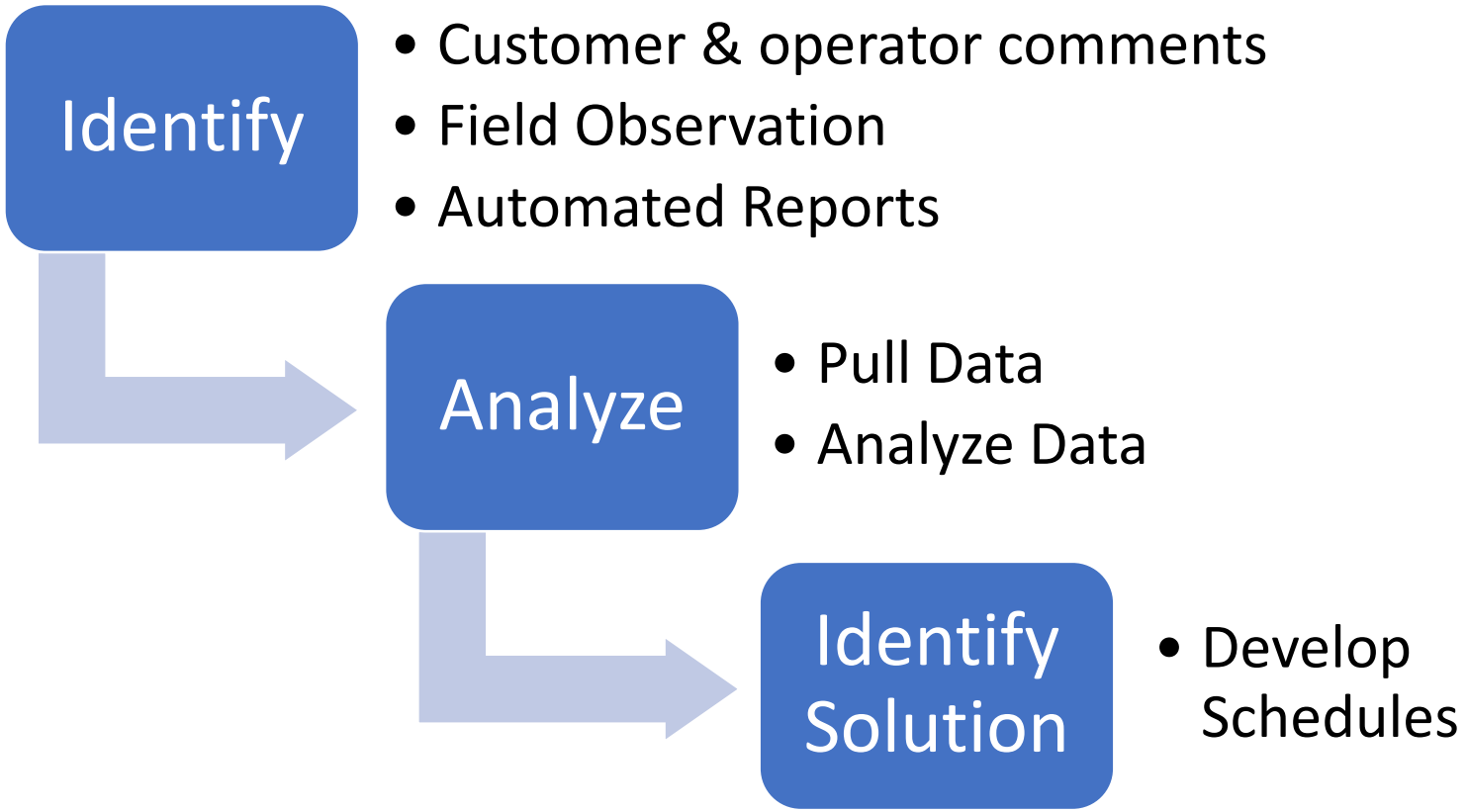
- Cap Remap
  - Implemented June 3, 2018
  - Largest route restructure in agency history
  - Greatly increased High-Frequency service throughout Austin

- Operation Control Center
  - State of the art control center
  - Combines service monitoring and dispatch function for each service provider

Continuous Customer Experience Improvement

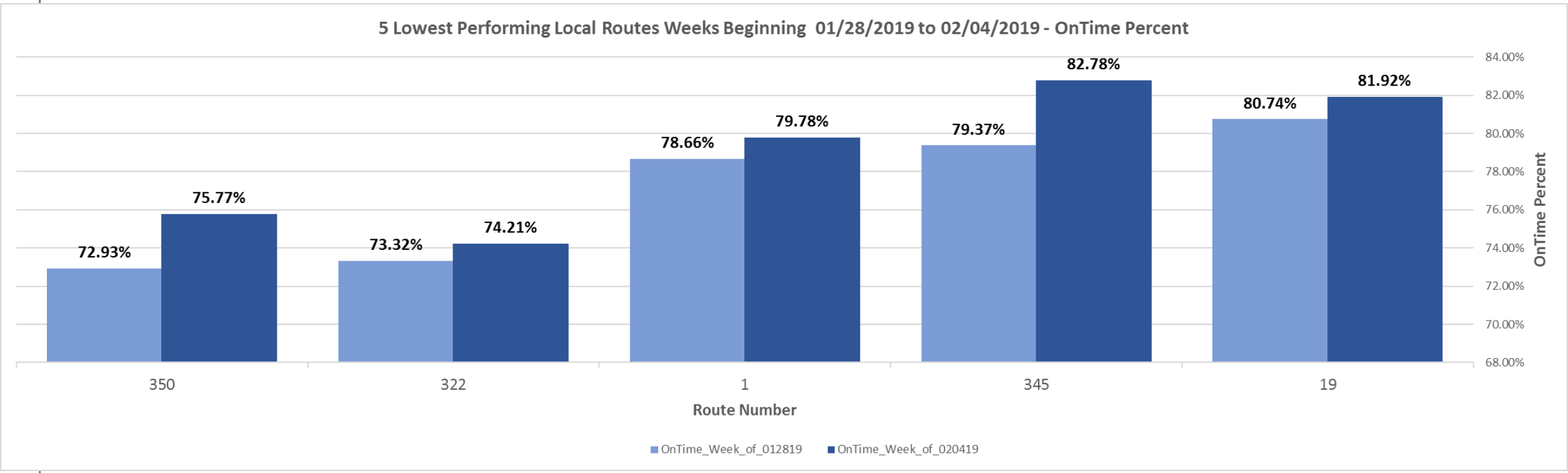
- Cross Functional Team
  - Short-Range Planning
  - Service Analysis
  - Operations
  - Service Monitoring
- Use data to inform the decision-making process
- Quickly implement solutions to service deliver issues

The CCEIT Process

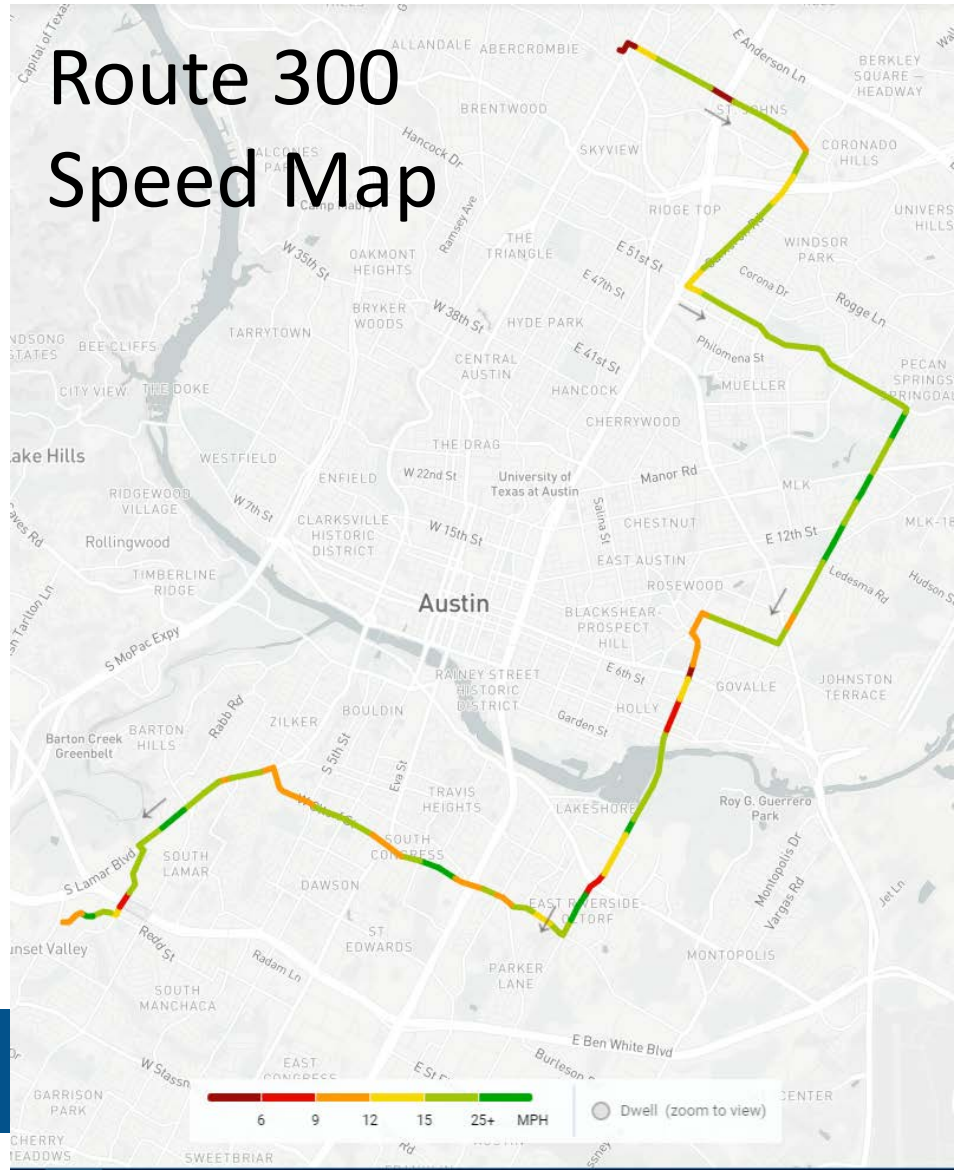


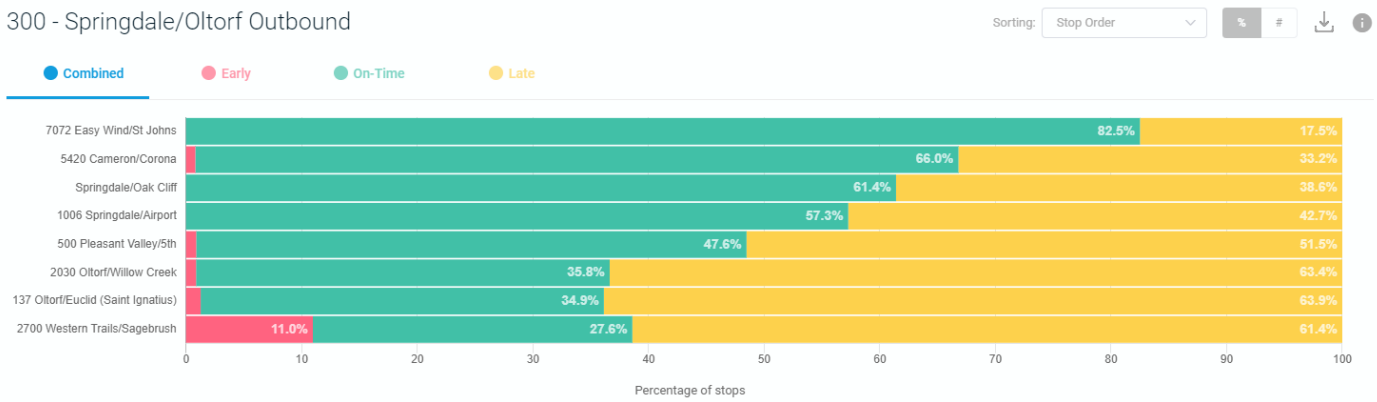
Example: On-Time Performance

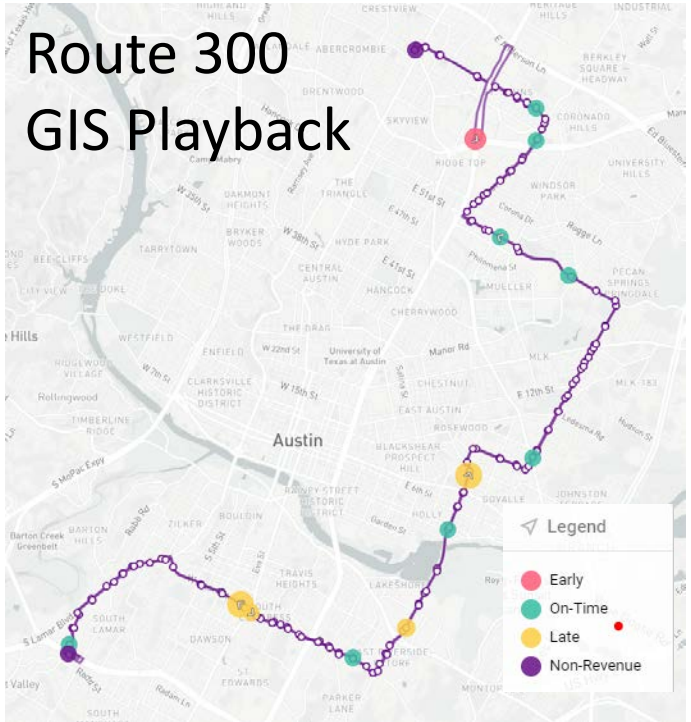
- Identify
  - Orb CAD
  - Swiftly
  - Customer Comments
- Analysis
  - Excel
  - Swiftly
- Solution
  - Operator Coaching
  - Running Time Adjustments
  - Transit Priority Treatments



Example: On-Time Performance - Swiftly







Example: Overcrowding

- Identify
  - Social Media
  - Customer Comments
  - Automated Reports
- Analysis
  - R
  - Excel
- Solution
  - Q Buses
  - Deadheads

Date

Trip Start

	Max of Max													
4														
5	Row Labels	30119	30419	30519	30619	30719	30819	31119	31219	31319	31419	31519	Count	% of
6	0													Days
111	1302	30	39	19	29	42	18	39	40	35	38	44	0	0%
112	1318	39	25	45	37	18	34	23	13	24	15	27	0	0%
113	1333	23	22	19	16	19	20	21	17	26	21	9	0	0%
114	1348	21	22	13	19	20	27	24	24	27	17	35	1	3%
115	1408	38	43	21	36	39	46	27	27	50	38	38	5	13%
116	1428	51	51	45	53	53	33	37	52	43	72	44	19	49%
117	1443	21	22	47	36	42	31	45	22	20	18	18	4	10%
118	1458	33	22	31	33	34	47	38	39	71	49	42	5	13%
119	1512	39	51	29	45	29	40	40	33	28	19	51	8	21%
120	1527	31	49	43	61	51	34	29	55	50	70	28	9	23%
121	1542	34	25	44	25	32	27	30	55	46	71	28	2	5%
122	1557	23	28	37	58	68	50	53	47	55	35	49	16	41%
123	1614	47	34	56	31	55	17	49	28	46	27	43	19	49%
124	1629	35	63	43	44	27	62	33	53	34	37	22	12	31%
125	1644	17	34	31	47	13	15	34	30	56	43	45	2	5%
126	1659	35	31	29	43	43	8	20	53	36	17	19	1	3%
127	1714	34	33	43	55	27	32	42	46	28	34	26	9	23%
128	1729	24	37	14	33	52	31	35	17	13	31	23	2	5%
129	1744	15	35	22	17	13	27	33	27	48	31	6	1	3%
130	1759	33	27	6	51	42	29	19	15	37	24	31	2	5%
131	1819	14	24	40	15	18	14	48	12	20	20	17	1	3%

Example: Bus Bunching

- Identify
  - OCC
  - Automated Reports
- Analysis
  - R
  - Excel
- Solution
  - Q Buses

Route	Hour	Incidents_LastWeek	Incidents_FullSignUp
300	5:00PM	8	63
20	5:00PM	7	68
300	3:00PM	5	23
10	5:00PM	4	27
300	7:00AM	4	29
10	4:00PM	3	20
20	3:00PM	3	13
300	10:00AM	3	14
300	4:00PM	3	20
300	1:00PM	2	10
300	2:00PM	2	27
2	10:00AM	1	1
2	5:00PM	1	4
4	10:00AM	1	1
4	5:00PM	1	4
10	7:00AM	1	4
10	8:00AM	1	1
20	9:00AM	1	1
20	11:00AM	1	2
20	4:00PM	1	9
20	6:00PM	1	15
300	5:00AM	1	3
300	8:00AM	1	3
300	9:00AM	1	2
300	12:00PM	1	2

Key Takeaways

- Requires supportive data wonks
- Analysis does not need to be fancy
- Don’t under estimate the power of Excel
- Field observations still valuable
- Automate as you understand what you are looking for

METRO

THANK YOU!

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