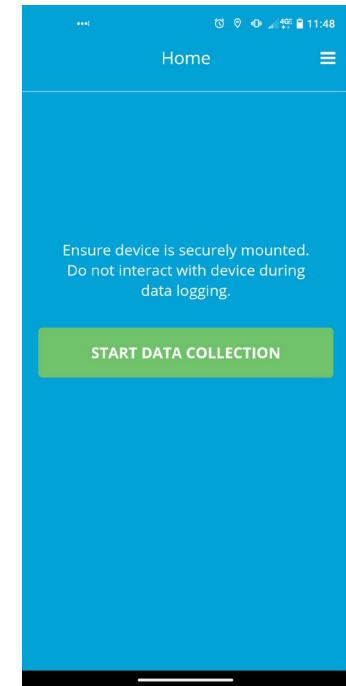




Total Pave IRI App

Comparisons of IRI Data from Phone Application with Inertial Laser Profiler



Total Pave App Information

- Image 1 is the App from the Google Play Store
- Image 2 is the App home page
- Image 3 is the log after collecting data
- Image 4 is the notes for the log to differentiate lanes or other notes

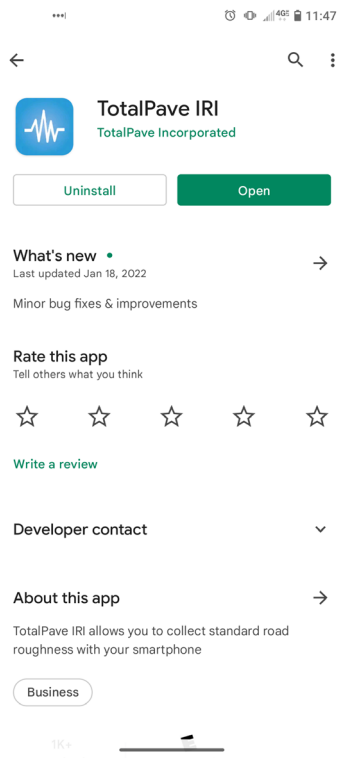


Image 1

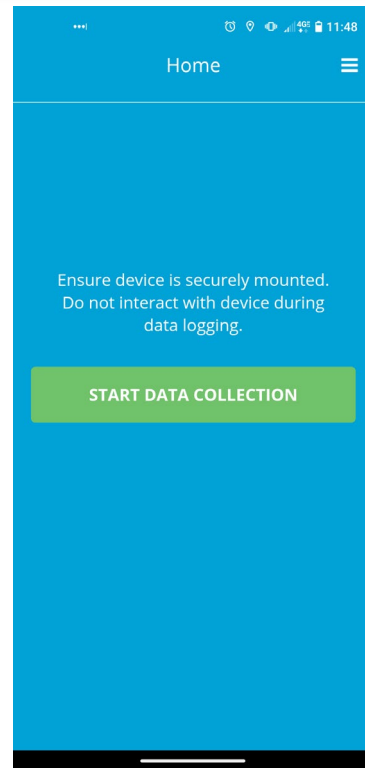


Image 2

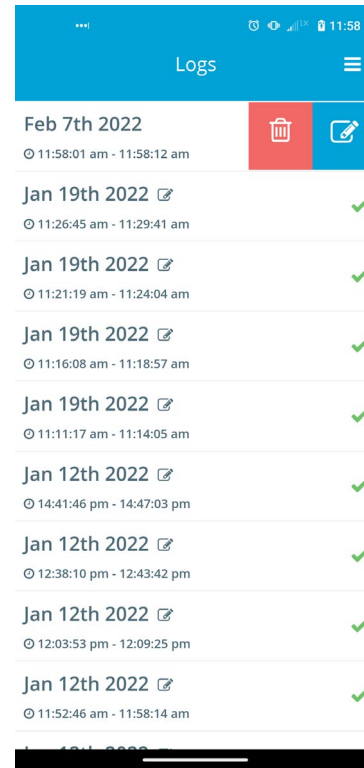


Image 3

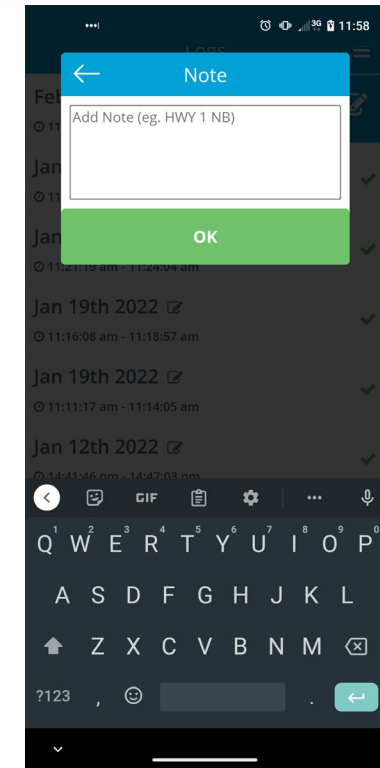


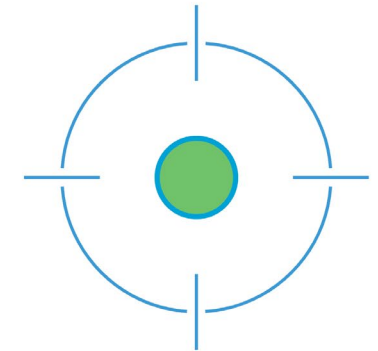
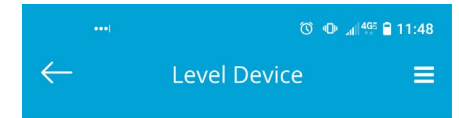
Image 4

Total Pave Mounting

- The phone collecting data will be securely mounted to the windshield

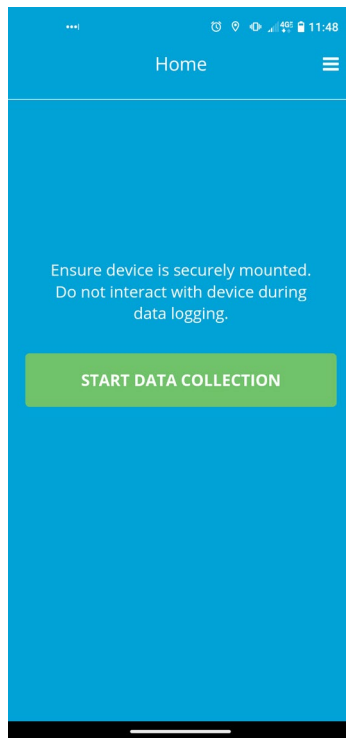


- Before each run, the phone in it's mount needs to be leveled for accurate data.

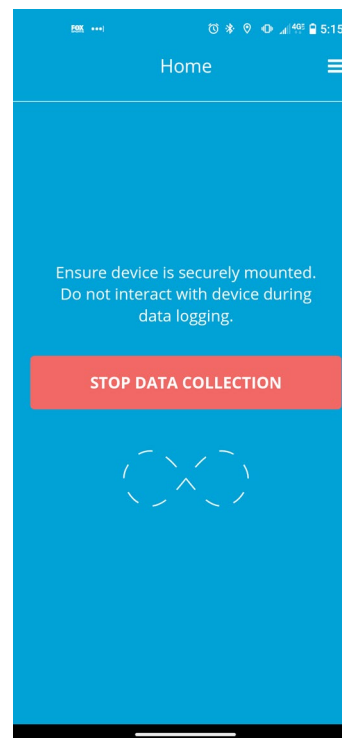


Data Collection

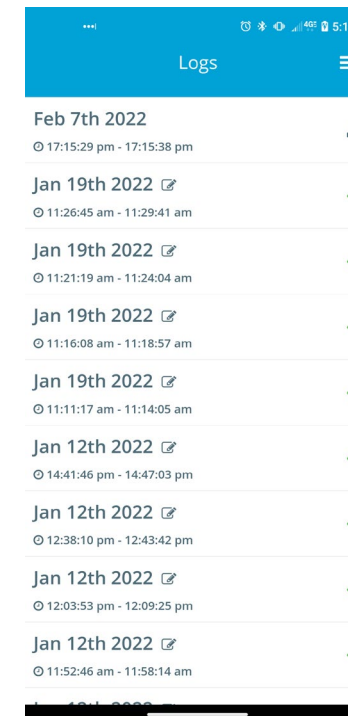
With the phone securely mounted and leveled click start data collection



While data is being collected it will look like the below image.



To upload data for processing click on the sandwich menu and select logs. Uploaded logs will have a green check and ones to be uploaded have the grey seen below

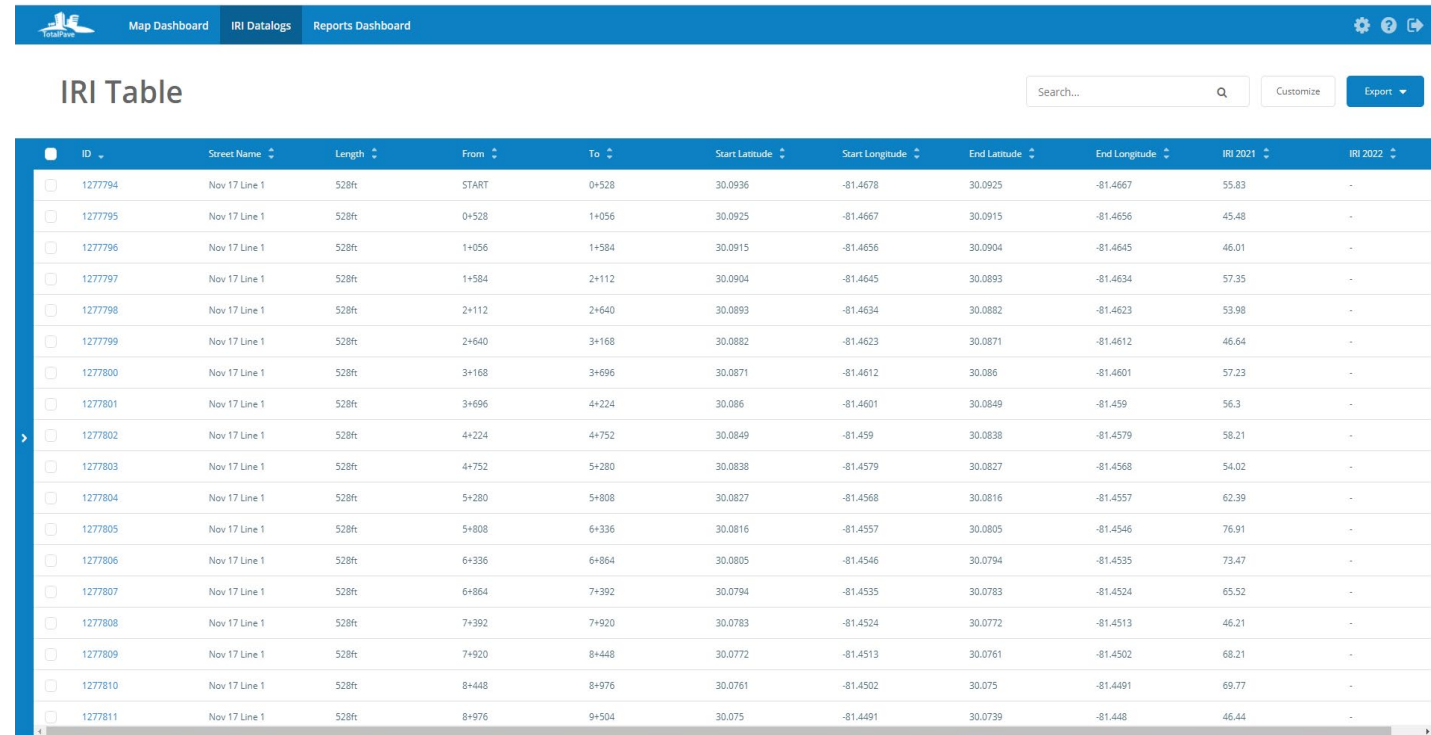


*all IRI data from Total Pave was collected using a Motorola G Power in a windshield mount

Total Pave Desktop

- A table on the Total Pave App website

- Data is processed and stored.
 - ✓ stations (starting from 0),
 - ✓ IRI,
 - ✓ GPS coordinates,
 - ✓ Date, and
 - ✓ Notes, etc.



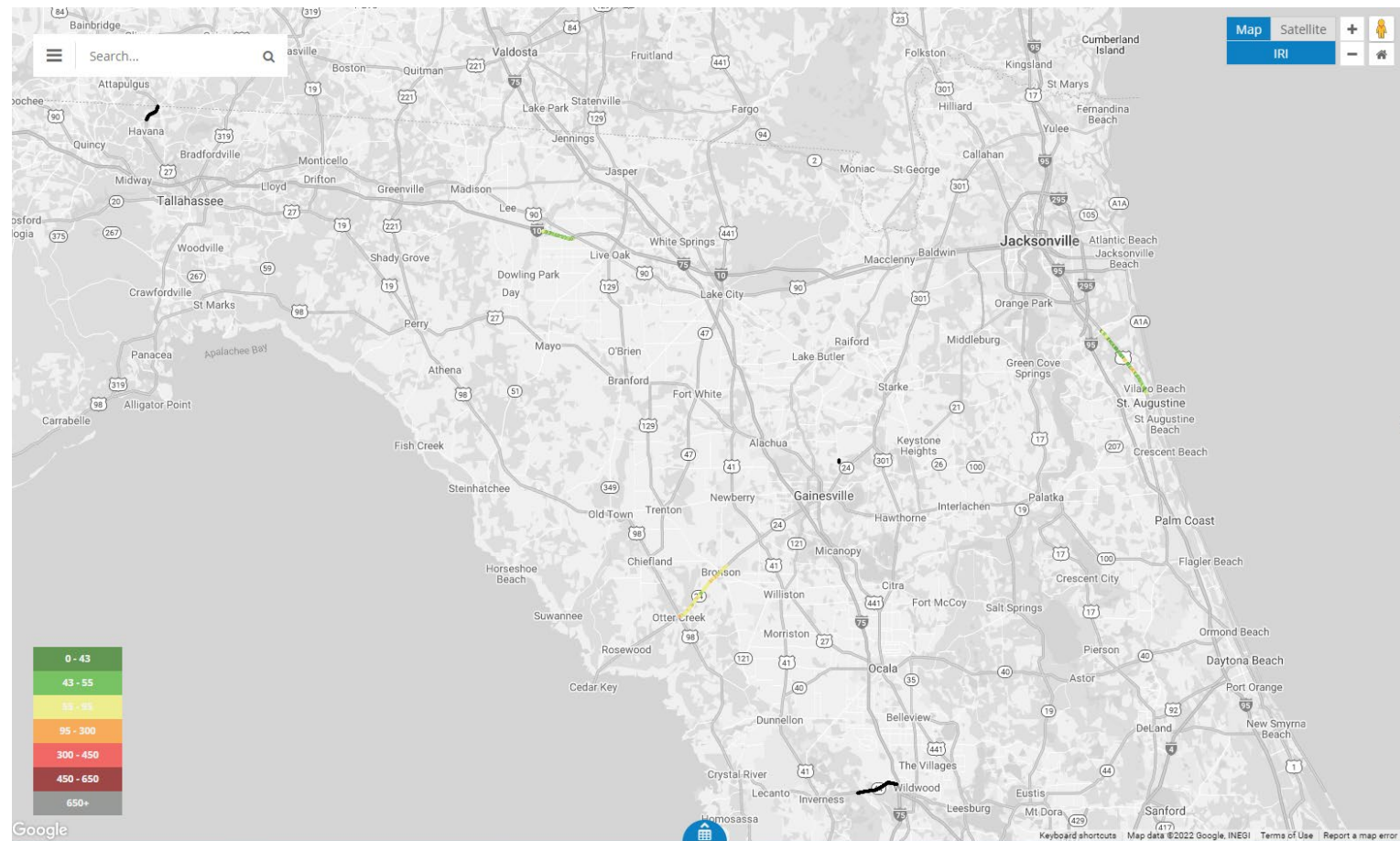
The screenshot displays the 'Total Pave' application interface. At the top, there is a blue navigation bar with the 'Total Pave' logo and three tabs: 'Map Dashboard', 'IRI Datatags', and 'Reports Dashboard'. The 'IRI Datatags' tab is currently selected. Below the navigation bar, the title 'IRI Table' is centered. To the right of the title, there is a search bar with the placeholder text 'Search...', a 'Customize' button, and an 'Export' button with a dropdown arrow. The main content area is a table with 11 columns: ID, Street Name, Length, From, To, Start Latitude, Start Longitude, End Latitude, End Longitude, IRI 2021, and IRI 2022. The table contains 17 rows of data, all for 'Nov 17 Line 1'. Each row has a checkbox in the 'ID' column. The 'Length' column for all rows is '528ft'. The 'From' and 'To' columns show stationing values. The 'Start' and 'End' columns provide latitude and longitude coordinates. The 'IRI 2021' column shows values ranging from 44.48 to 55.83, and the 'IRI 2022' column shows values ranging from 46.44 to 69.77.

ID	Street Name	Length	From	To	Start Latitude	Start Longitude	End Latitude	End Longitude	IRI 2021	IRI 2022
☐ 1277794	Nov 17 Line 1	528ft	START	0+528	30.0936	-81.4678	30.0925	-81.4667	55.83	-
☐ 1277795	Nov 17 Line 1	528ft	0+528	1+056	30.0925	-81.4667	30.0915	-81.4656	45.48	-
☐ 1277796	Nov 17 Line 1	528ft	1+056	1+584	30.0915	-81.4656	30.0904	-81.4645	46.01	-
☐ 1277797	Nov 17 Line 1	528ft	1+584	2+112	30.0904	-81.4645	30.0893	-81.4634	57.35	-
☐ 1277798	Nov 17 Line 1	528ft	2+112	2+640	30.0893	-81.4634	30.0882	-81.4623	53.98	-
☐ 1277799	Nov 17 Line 1	528ft	2+640	3+168	30.0882	-81.4623	30.0871	-81.4612	46.64	-
☐ 1277800	Nov 17 Line 1	528ft	3+168	3+696	30.0871	-81.4612	30.086	-81.4601	57.23	-
☐ 1277801	Nov 17 Line 1	528ft	3+696	4+224	30.086	-81.4601	30.0849	-81.459	56.3	-
☐ 1277802	Nov 17 Line 1	528ft	4+224	4+752	30.0849	-81.459	30.0838	-81.4579	58.21	-
☐ 1277803	Nov 17 Line 1	528ft	4+752	5+280	30.0838	-81.4579	30.0827	-81.4568	54.02	-
☐ 1277804	Nov 17 Line 1	528ft	5+280	5+808	30.0827	-81.4568	30.0816	-81.4557	62.39	-
☐ 1277805	Nov 17 Line 1	528ft	5+808	6+336	30.0816	-81.4557	30.0805	-81.4546	76.91	-
☐ 1277806	Nov 17 Line 1	528ft	6+336	6+864	30.0805	-81.4546	30.0794	-81.4535	73.47	-
☐ 1277807	Nov 17 Line 1	528ft	6+864	7+392	30.0794	-81.4535	30.0783	-81.4524	65.52	-
☐ 1277808	Nov 17 Line 1	528ft	7+392	7+920	30.0783	-81.4524	30.0772	-81.4513	46.21	-
☐ 1277809	Nov 17 Line 1	528ft	7+920	8+448	30.0772	-81.4513	30.0761	-81.4502	68.21	-
☐ 1277810	Nov 17 Line 1	528ft	8+448	8+976	30.0761	-81.4502	30.075	-81.4491	69.77	-
☐ 1277811	Nov 17 Line 1	528ft	8+976	9+504	30.075	-81.4491	30.0739	-81.448	46.44	-

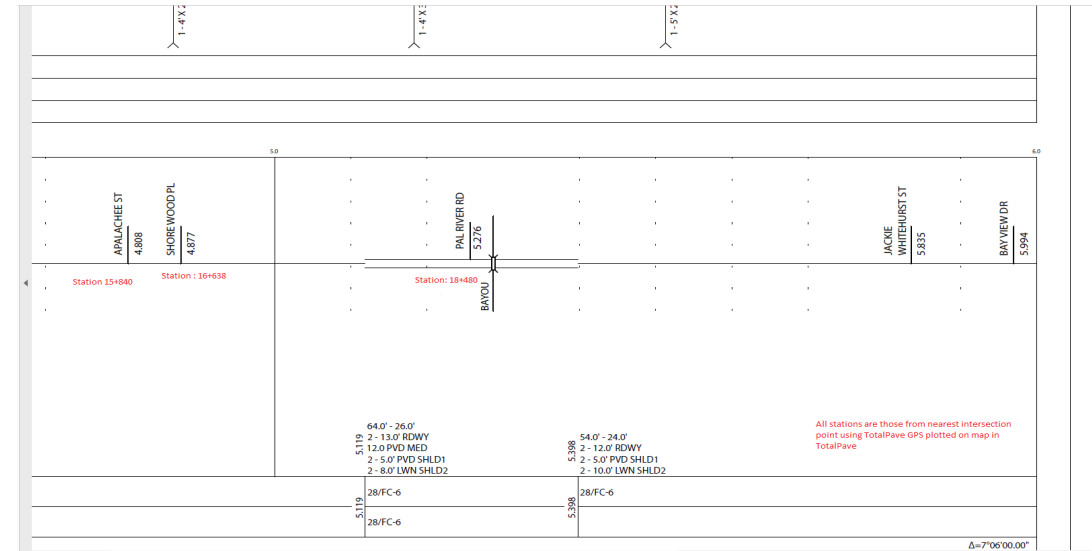
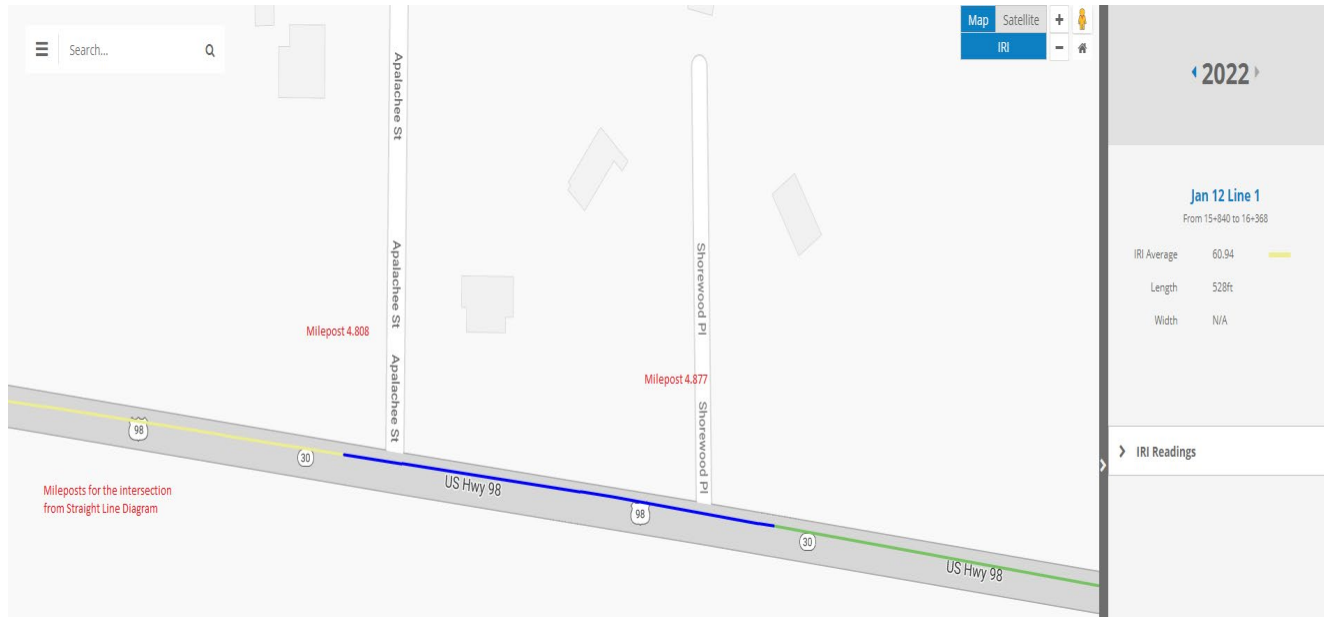
- Data can be exported from here to a csv file.

Total Pave Desktop

- The website also provides data in a map view of projects.
- The filters can be adjusted to custom ranges.
- The ones shown have current acceptance IRI ranges:
incentive, disincentive etc.



Alignment of Mileposts between Profiler and App



- Location of the runs was aligned between profiler and the App using GPS coordinates mapped on the Total Pave desktop map and finding known intersections.
 - The stations were taken from these points from Total Pave and compared to the milepost from the Straight-Line Diagram.
 - The stations were converted to mileposts and aligned to these intersections.

	A	B	C	D	E	F
1	R+L Lanes					
2	From		To	Notes		
3	15+840		16+368	49010R1		
4	17+952		18+480	49010R1		
5						
6	Station	Street	MP from 0.0 convert	MP from SLD	Difference	
7	15.84	Apalachee	3	4.808	1.808	
8	16.368	Shorewood	3.1	4.877	1.777	
9	18.48	Pal River	3.5	5.276	1.776	
10				Average Difference	1.787	
11				New Starting Point	1.787	
12	Add 1.787 to all MP conversions from station for comparison MP					
13						

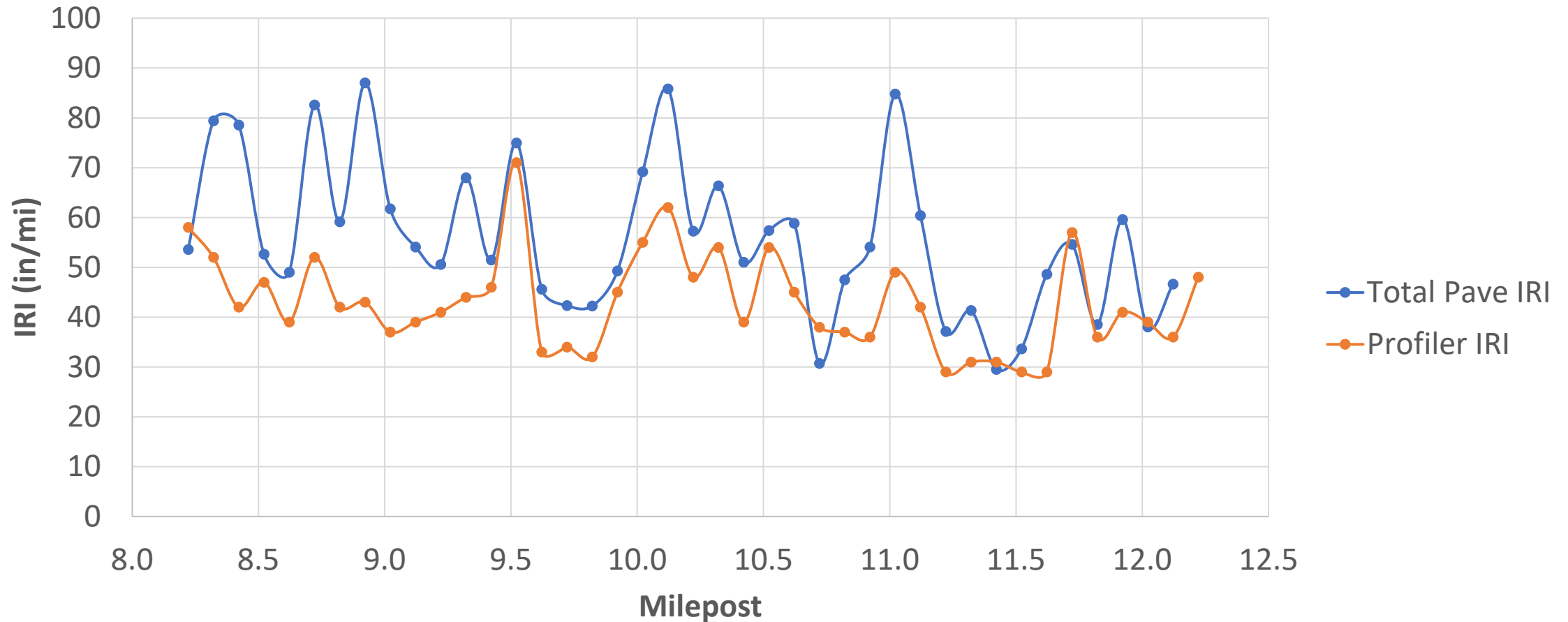
Data Collection

- Data collected so far:
 - 6 projects: 5 acceptance and 1 network.

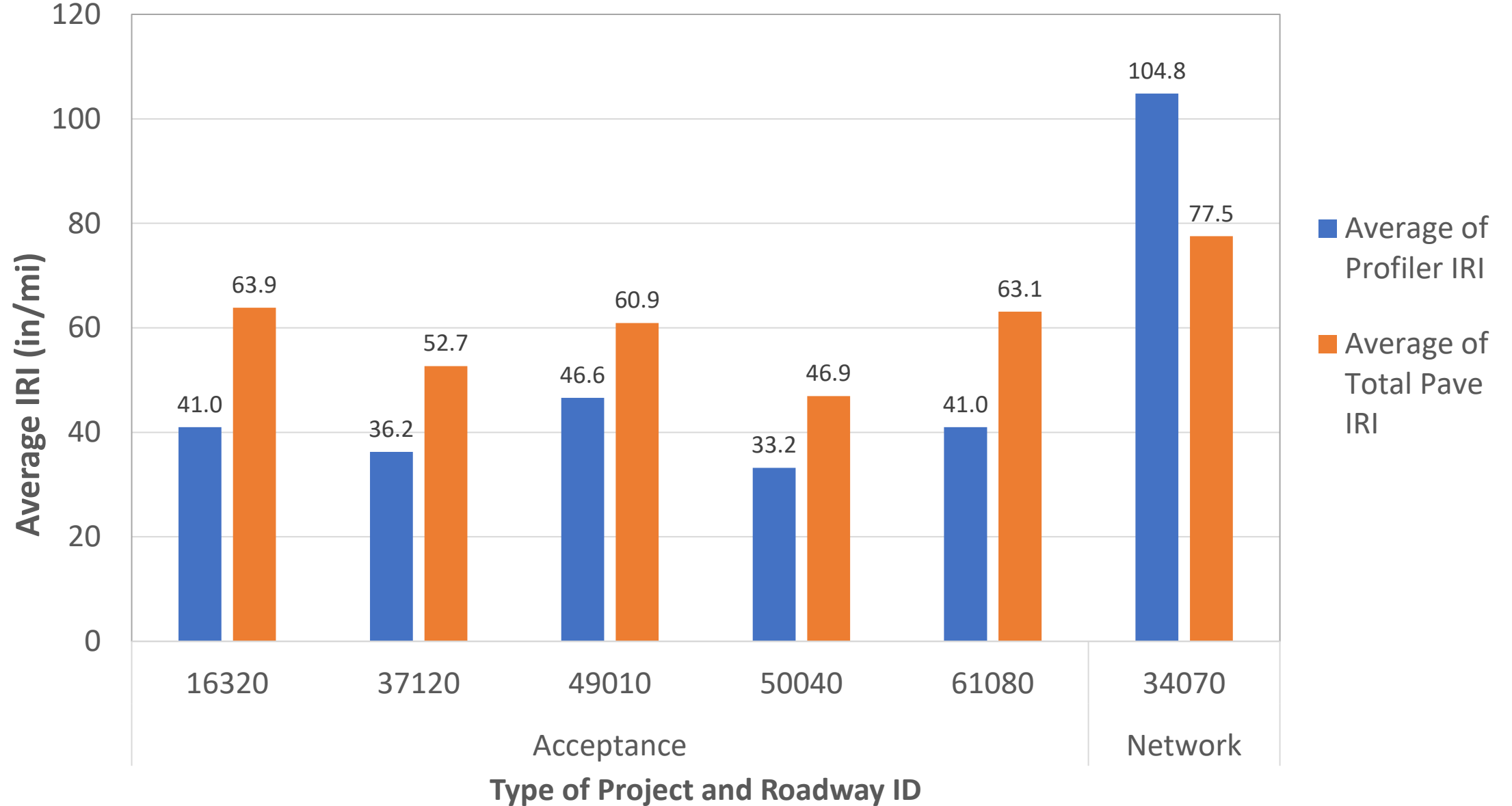
	Runs	Lots	Lane Miles
Network	2	260	26
Acceptance	33	1947	160.7
Totals	35	2207	186.7

IRI Data from Profiler vs. App

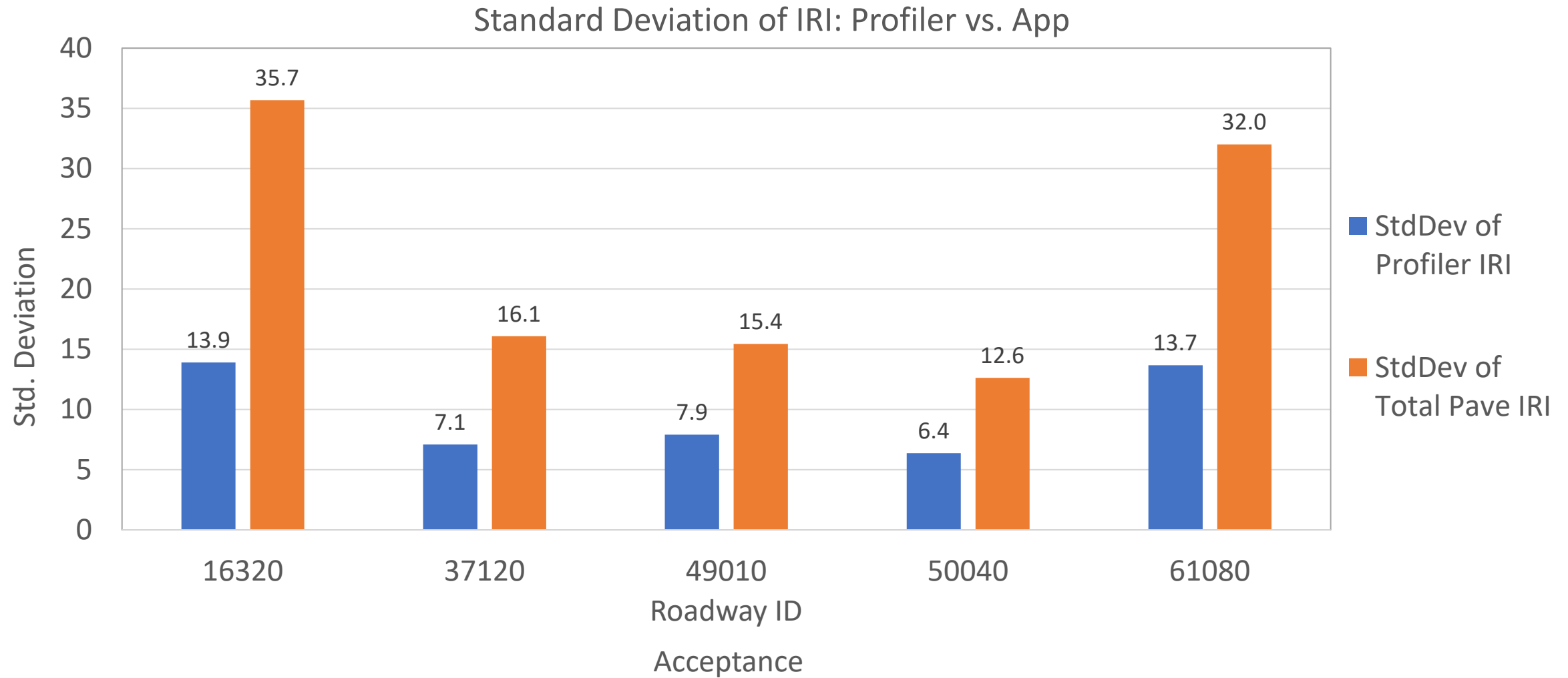
IRI Comparison, Project: 16320 Lane: L2



Average IRI, Profiler vs. App

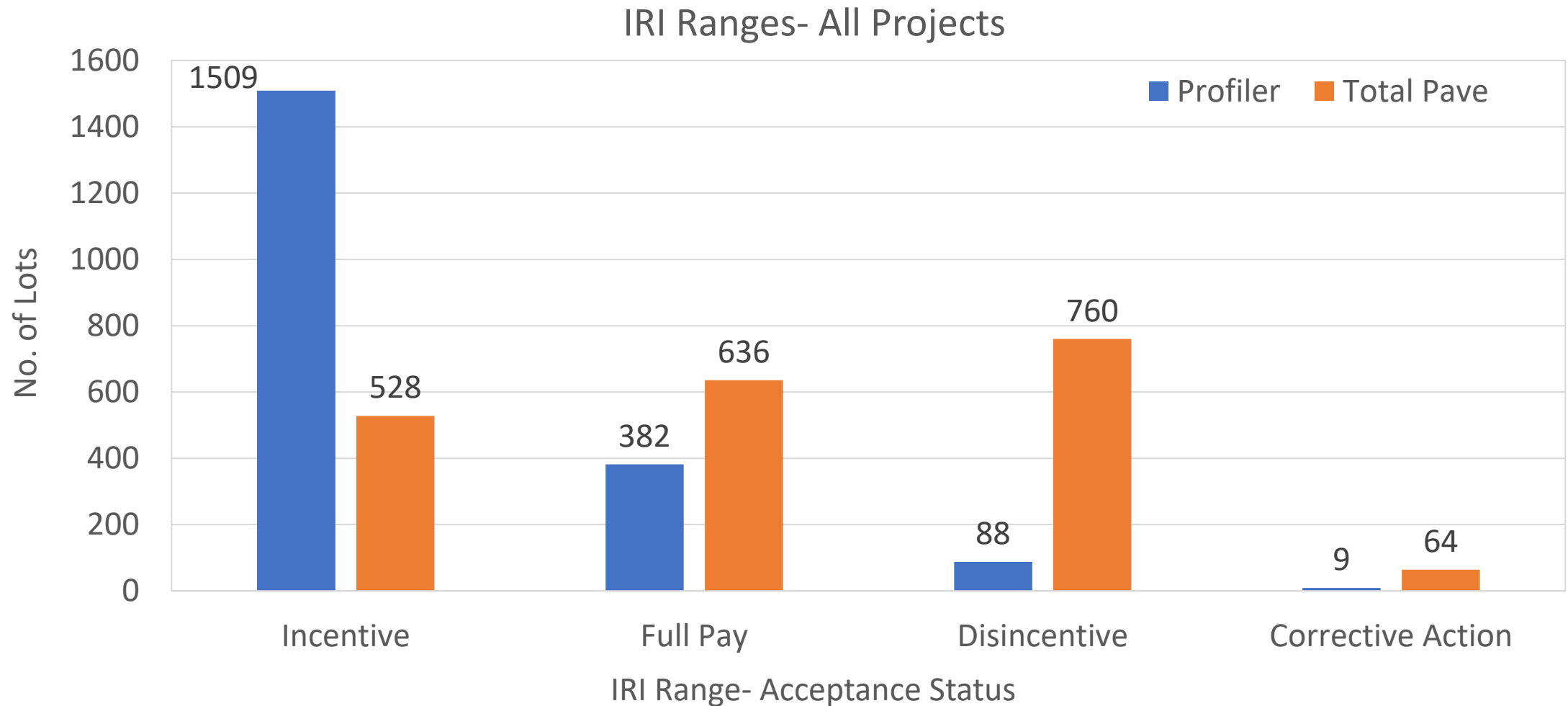


Variability of IRI from Profiler vs. App



Comparison of IRI Ranges

- Data from acceptance projects



IRI Difference Ranges between Profiler and App

