CHARTER SCHOOL TIA FINDINGS

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2016 TexITE Fall Meeting

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Charter School TIA Findings

- Trip Generation

- Entering / Exiting Distribution

- Peak Hour Factor

- Queuing

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Charter School Statistics

Growing enrollment

Charter school enrollment in Texas has risen steadily since the schools were authorized by the Legislature. In the 2014-15 academic year, there were 227,827 students in Texas charter schools. There were about 5 million students in Texas public schools the same year.
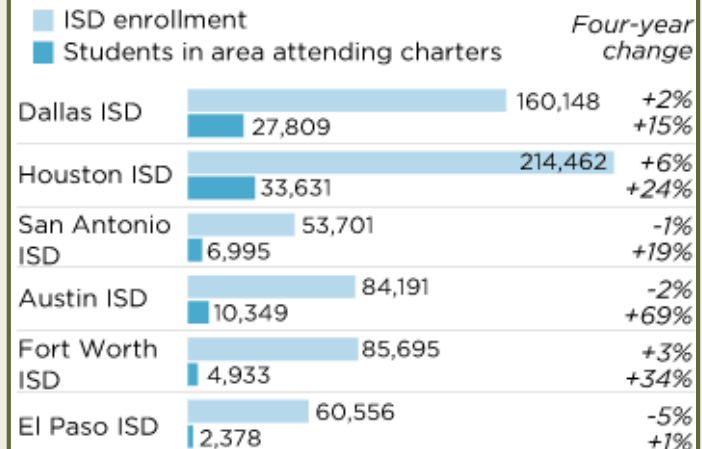
2014-15: 227,827

250,000
200
150
100
50
0

'00-'01   '05-'06   '10-'11   '14-'15
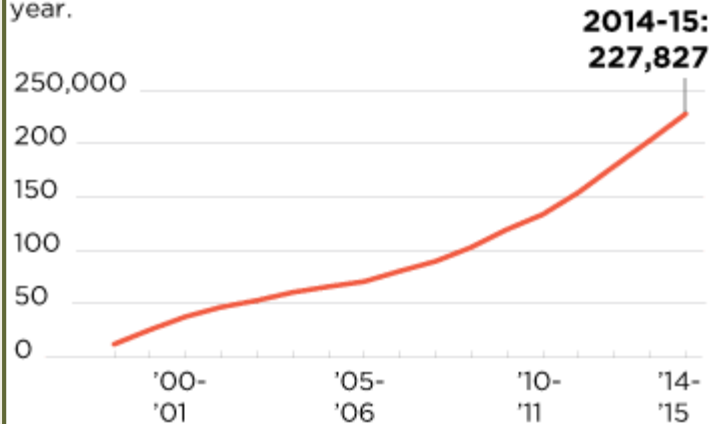
SOURCES: Texas Charter Schools Association; Texas Education Agency

Laurie Joseph/Staff Artist

A growing share of charter students

Charter school enrollment is growing faster than public school enrollment. Enrollment in similar areas and the percentage change from four years earlier:

- ISD enrollment
- Students in area attending charters

	ISD enrollment	Students attending charters	Four-year change
Dallas ISD	160,148	27,809	+2% / +15%
Houston ISD	214,462	33,631	+6% / +24%
San Antonio ISD	53,701	6,995	-1% / +19%
Austin ISD	84,191	10,349	-2% / +69%
Fort Worth ISD	85,695	4,933	+3% / +34%
El Paso ISD	60,556	2,378	-5% / +1%

NOTES: Based on 2014-15 academic year enrollment. Charter school students living within a district are not necessarily attending a charter school within that district.

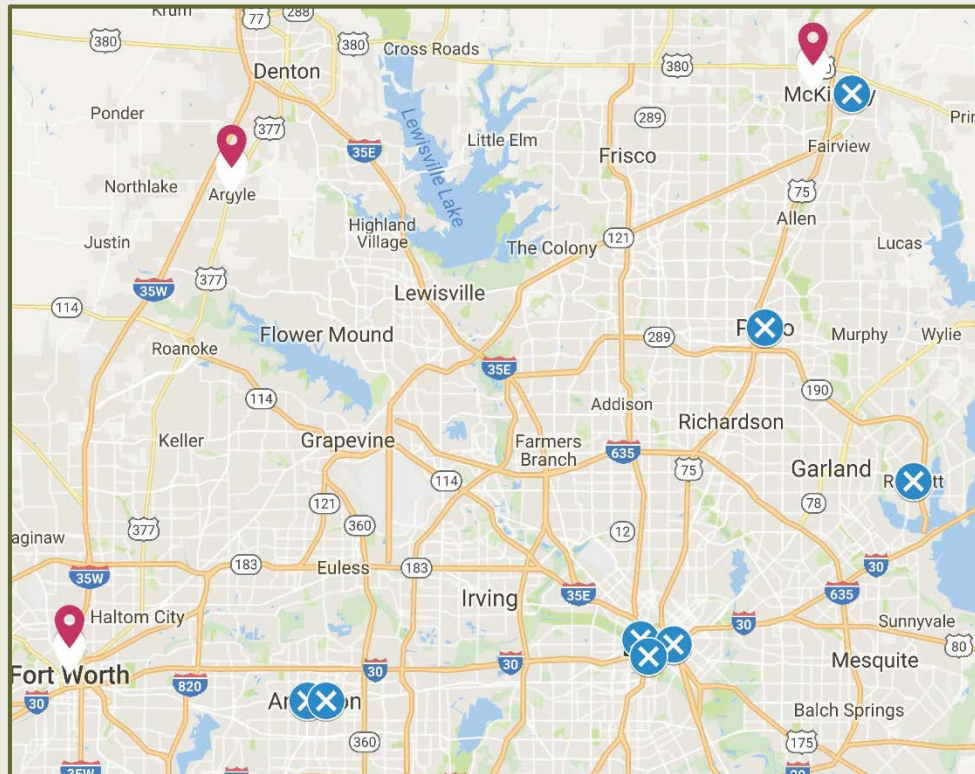SOURCE: *Dallas Morning News* analysis of Texas Education Agency data

Laurie Joseph/Staff Artist

>100 in DFW area

(*http://www.dfwchild.com/DFWEverything/cat34/Charter-Schools#*)
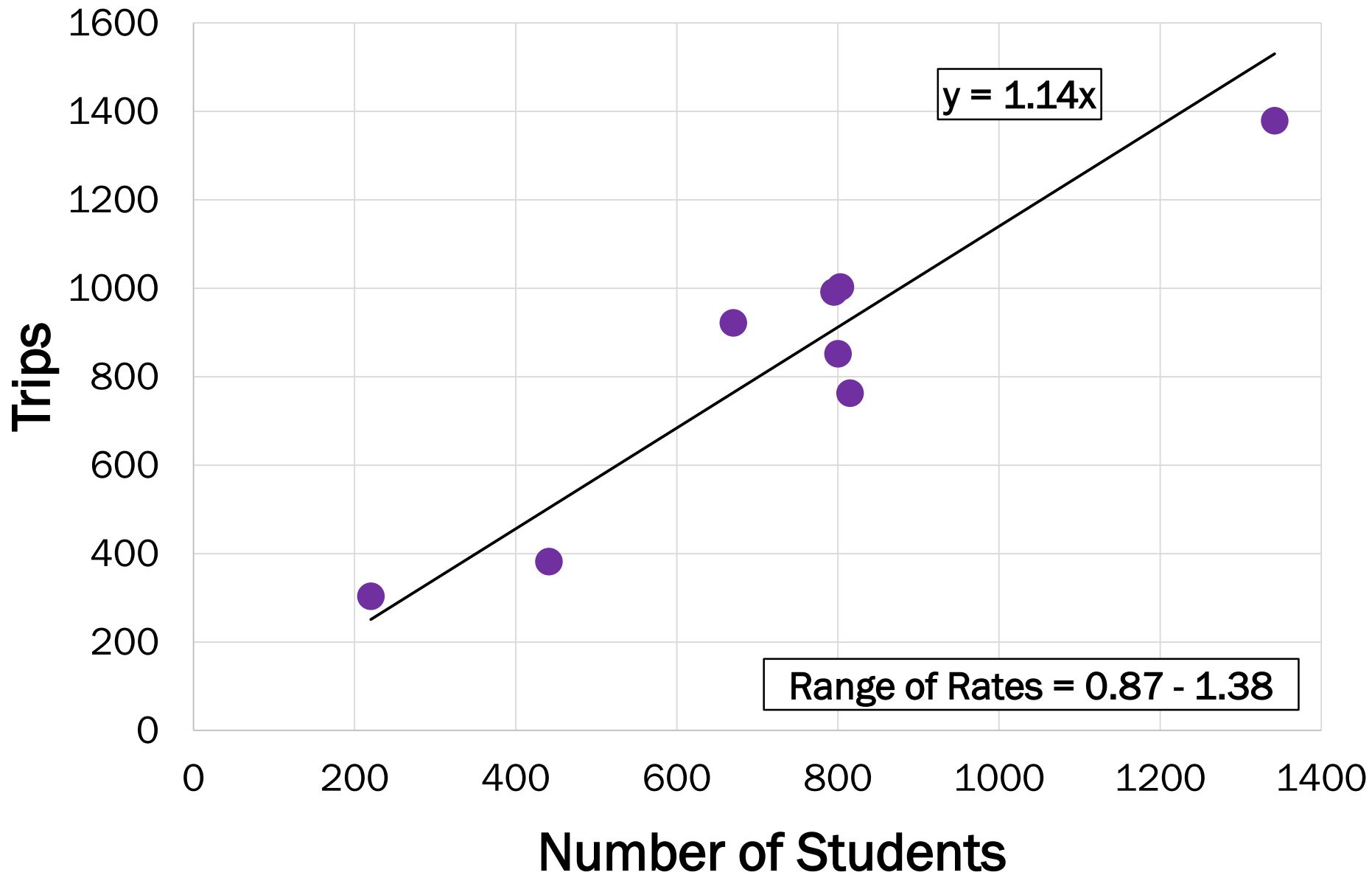
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DFW Data Collection Locations

K-8 (8 Schools)
Enrollment Range
  220 – 1,383 Students
Average Enrollment
  804 Students

K-12 (3 Schools)
Enrollment Range
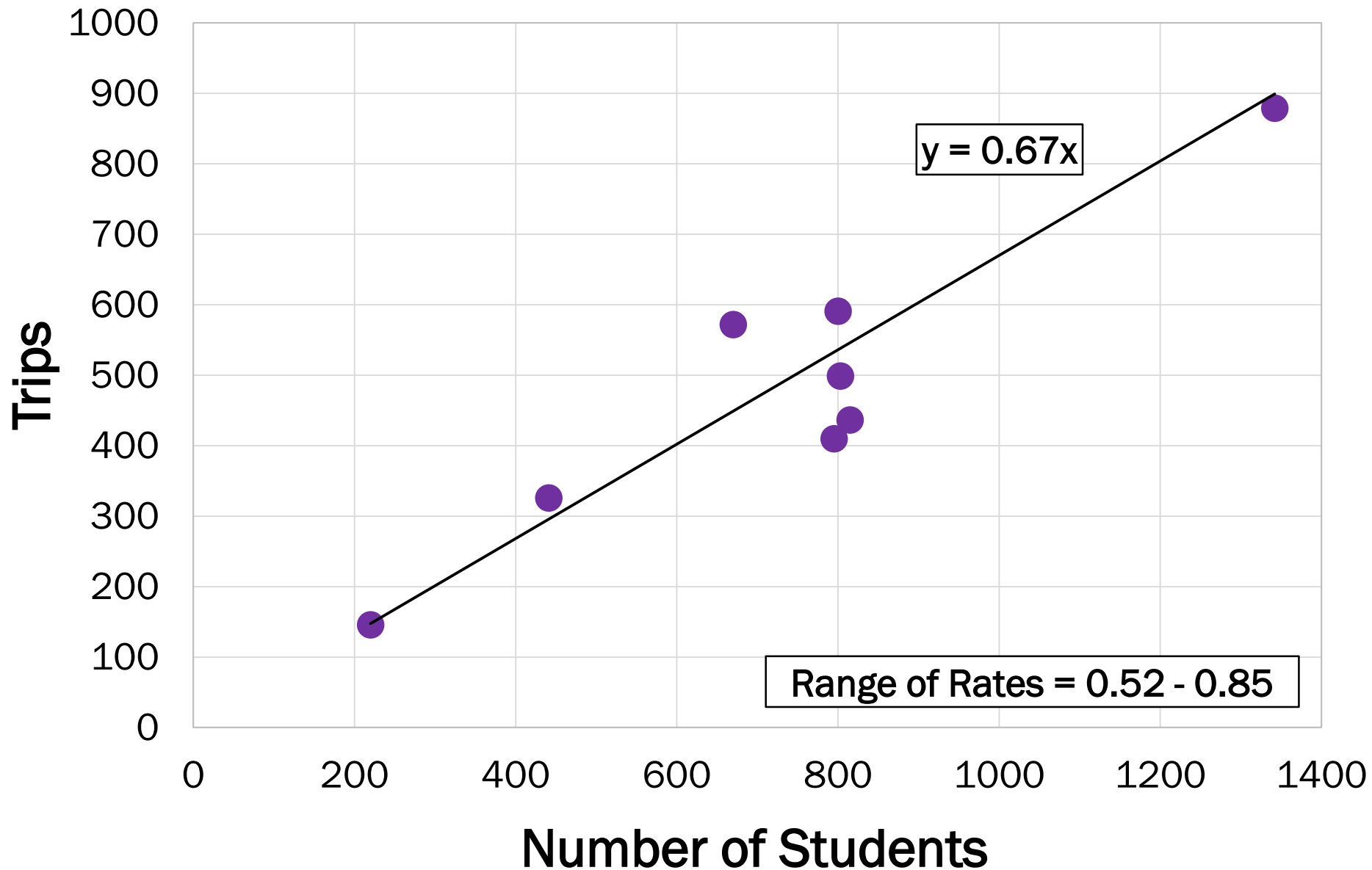 332 – 1,545 Students
Average Enrollment
  817 Students

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Trip Generation
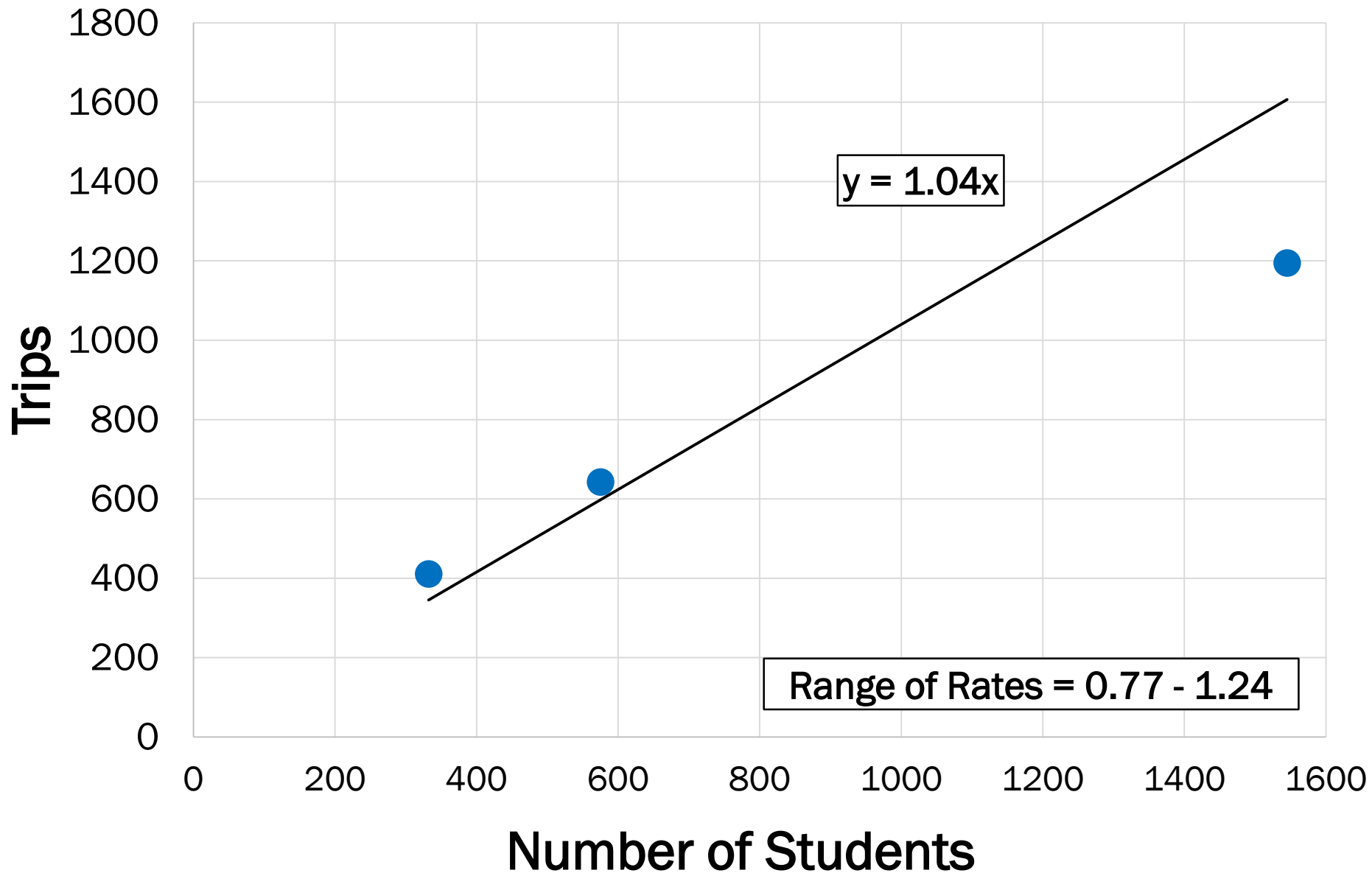
Trip Generation Characteristics
K-8 (AM)

y = 1.14x

Range of Rates = 0.87 - 1.38

Trips

Number of Students

Trip Generation Characteristics
K-8 (PM)

$y = 0.67x$

Range of Rates = 0.52 - 0.85

Trips

Number of Students

Trip Generation Characteristics
K-12 (AM)

y = 1.04x

Range of Rates = 0.77 - 1.24

Trips

Number of Students

Trip Generation Characteristics
K-12 (PM)

y = 0.70x

Range of Rates = 0.48 - 0.90

Trips (y-axis)

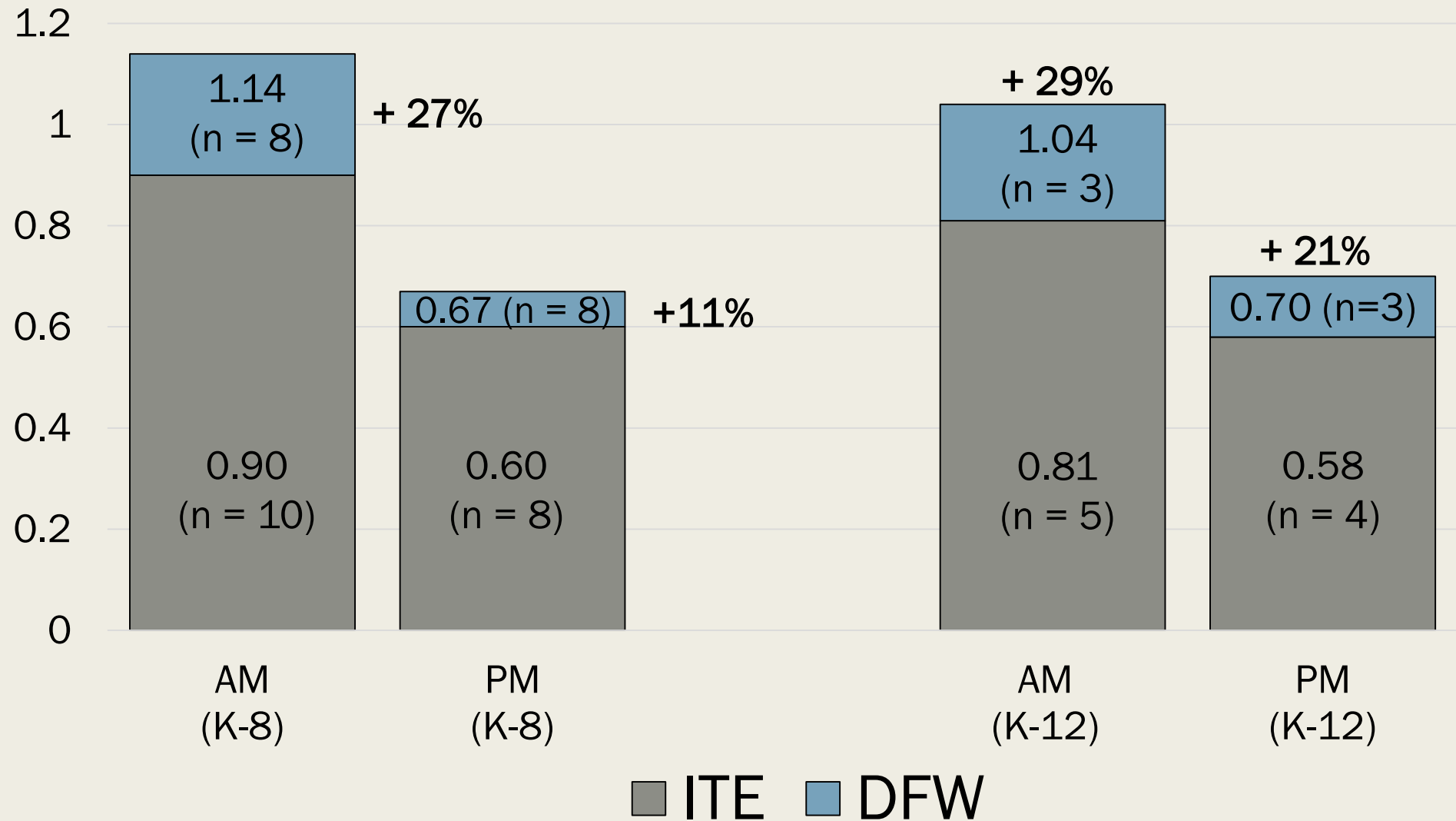Number of Students (x-axis)
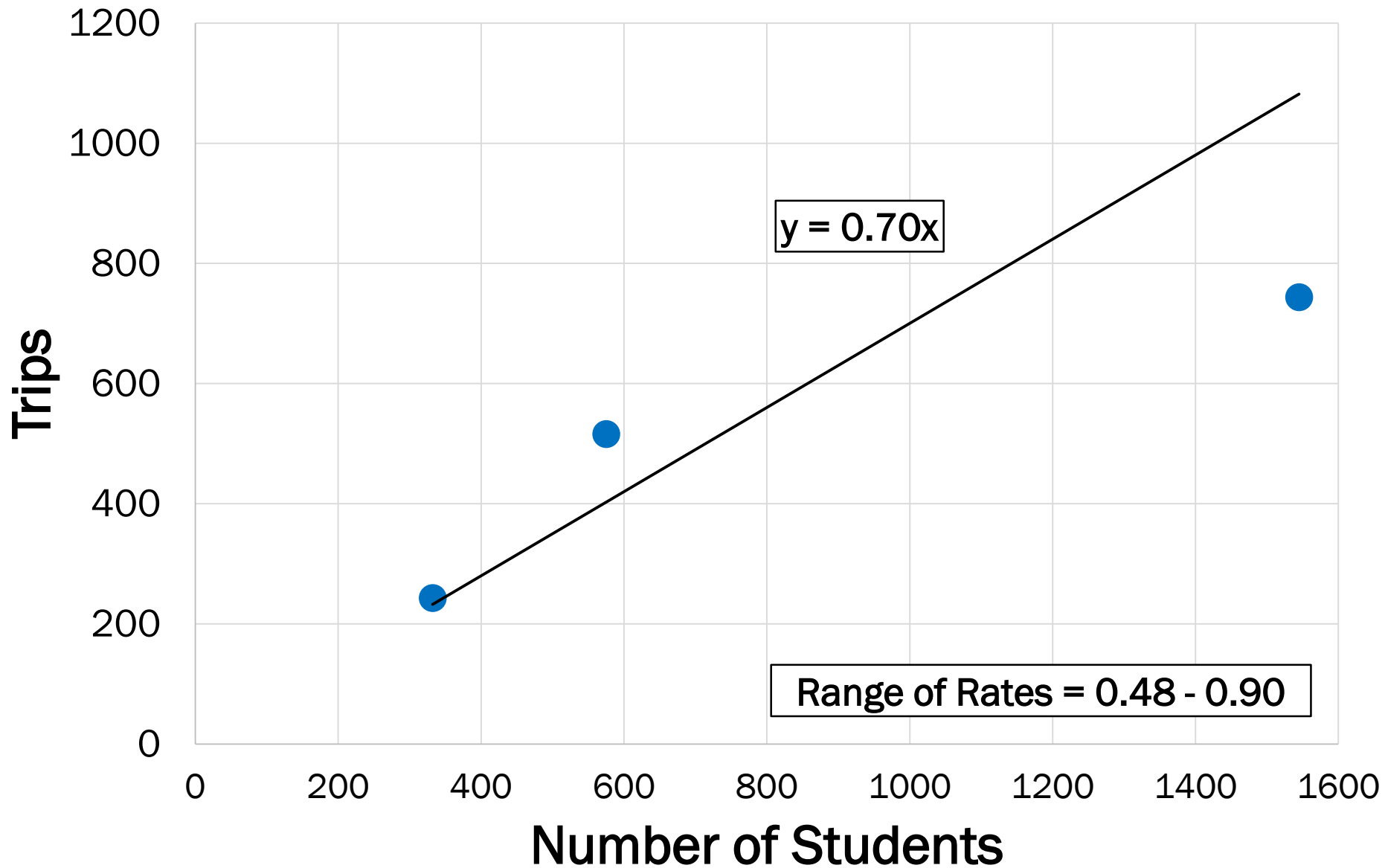
Comparisons to ITE Trip Generation

534 = Private School (K-8)
536 = Private School (K-12)

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Comparisons to ITE Trip Generation Trip Rates

+ 27%

1.14
(n = 8)

+ 29%

1.04
(n = 3)
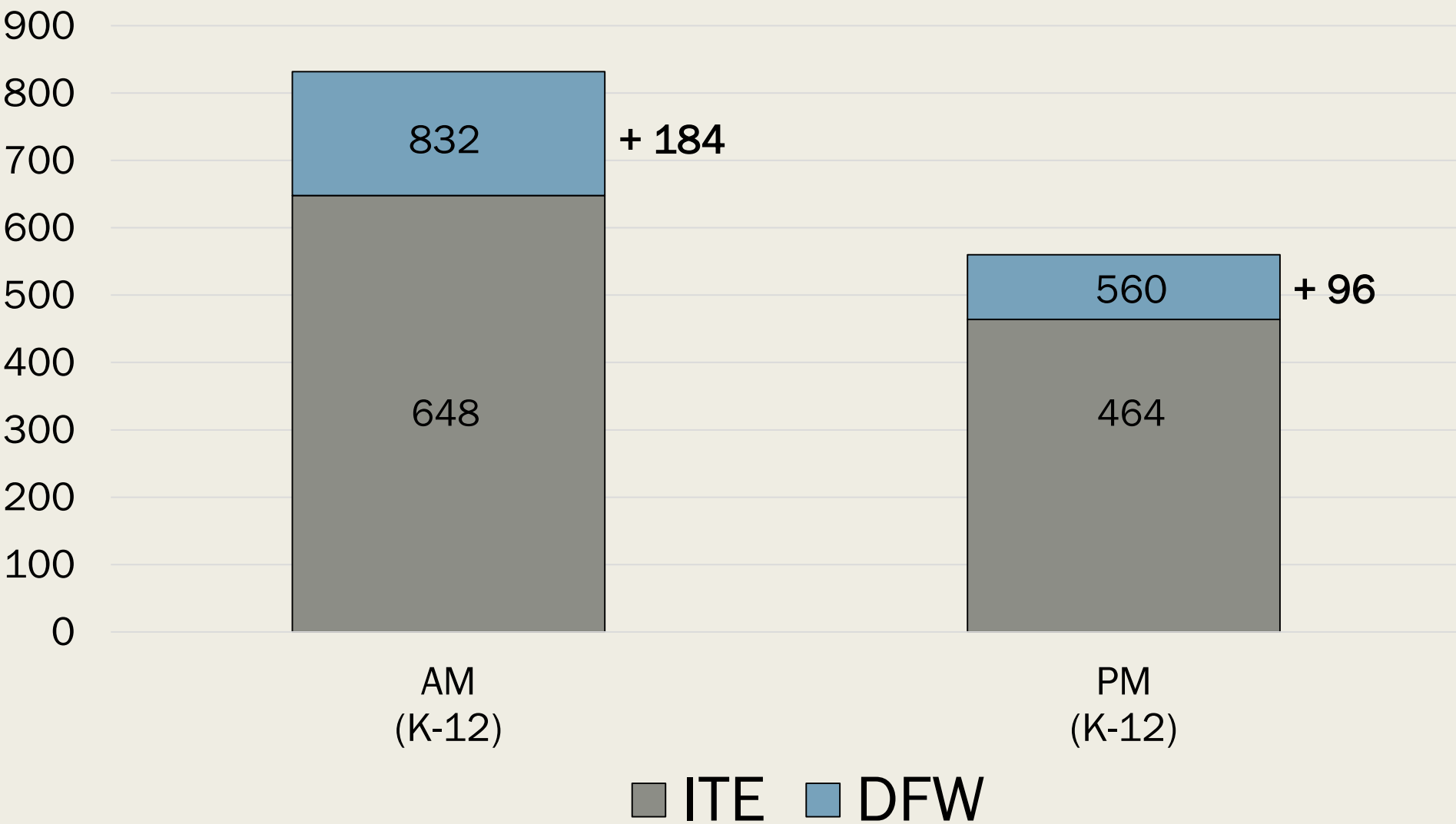
+11%

0.67 (n = 8)

+ 21%

0.70 (n=3)

0.90
(n = 10)

0.60
(n = 8)

0.81
(n = 5)

0.58
(n = 4)

AM
(K-8)

PM
(K-8)

AM
(K-12)

PM
(K-12)

■ ITE ■ DFW

Comparison to ITE Trip Generation (K-8)
800 Students

Bar chart comparing AM (K-8) and PM (K-8) trip generation.

AM (K-8): ITE 720, DFW 912, + 192
PM (K-8): ITE 480, DFW 536, + 56

Legend: ITE (gray), DFW (blue)

Comparison to ITE Trip Generation (K-12)
800 Students

AM (K-12): ITE 648, DFW total 832, +184
PM (K-12): ITE 464, DFW total 560, +96

ITE   DFW
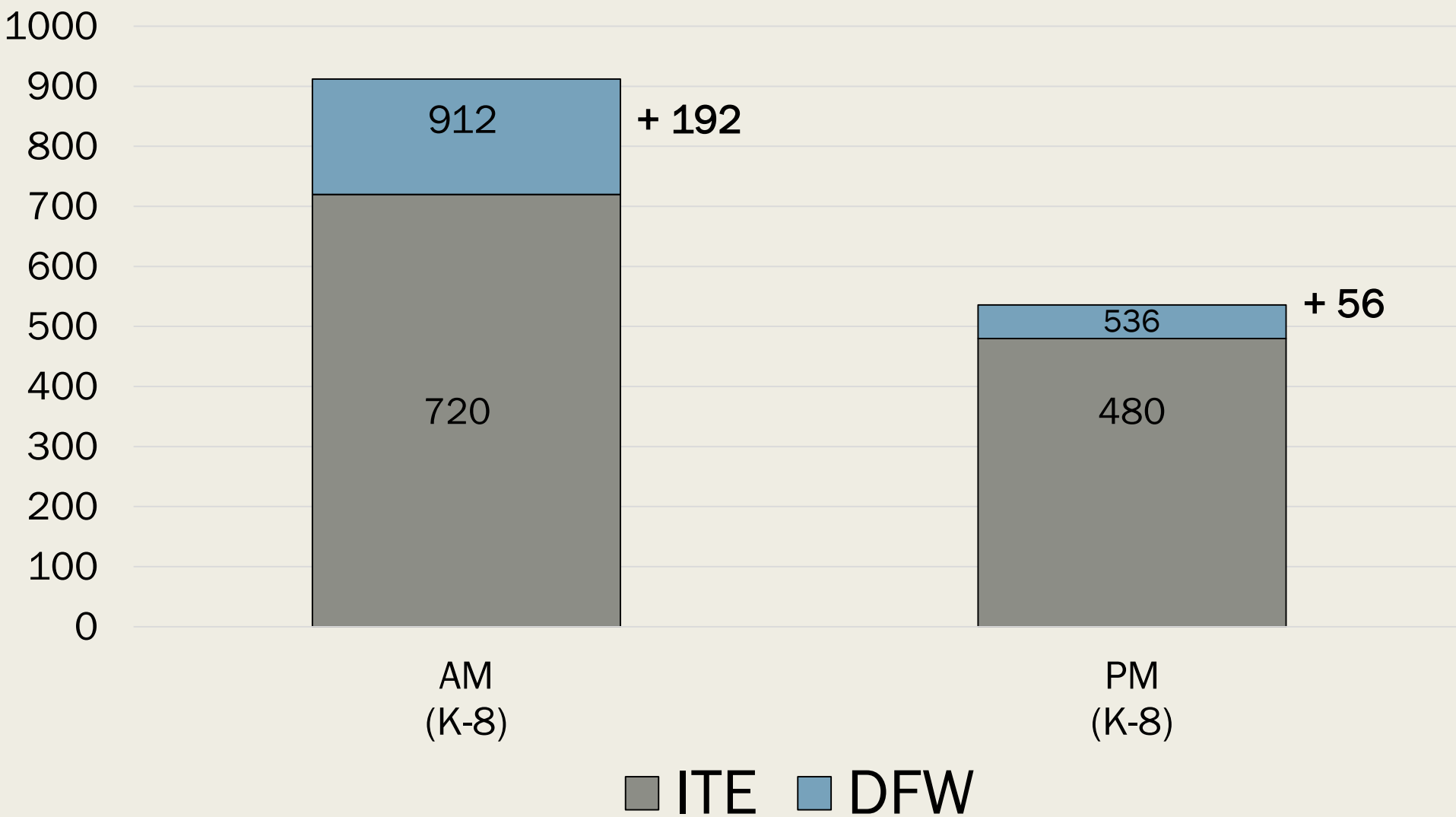
Entering / Exiting Distribution

Comparison to ITE Trip Generation Entering / Exiting Data (K-8)

	AM	PM
ITE	55% Entering / 45% Exiting	47% Entering / 53% Exiting
DFW	54% Entering / 46% Exiting	47% Entering / 53% Exiting

=Entering   =Exiting

Comparison to ITE Trip Generation Entering / Exiting Data (K-12)

	AM	PM
ITE	61% Entering / 39% Exiting	42% Entering / 58% Exiting
DFW	60% Entering / 40% Exiting	45% Entering / 55% Exiting
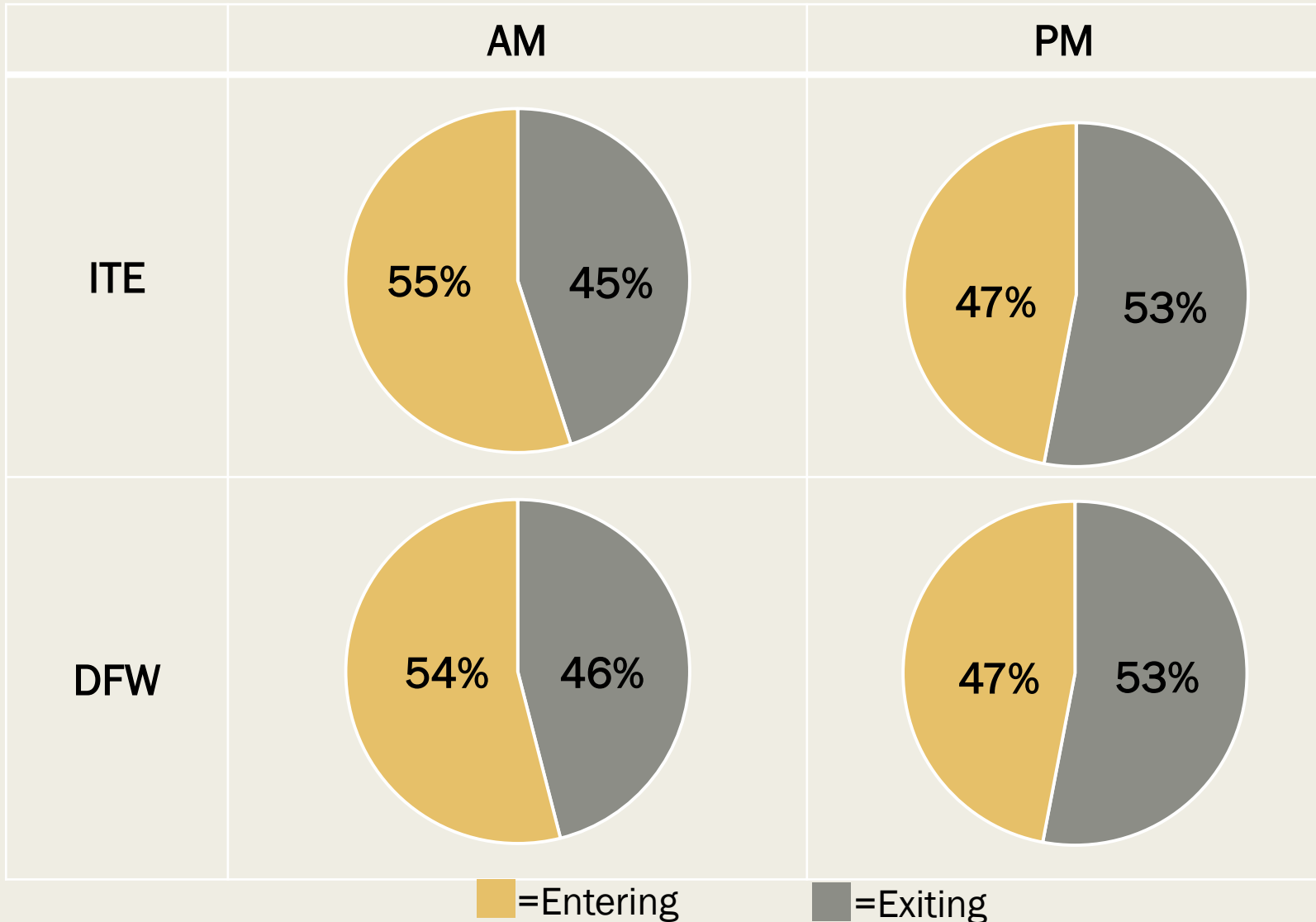
■ =Entering   ■ =Exiting
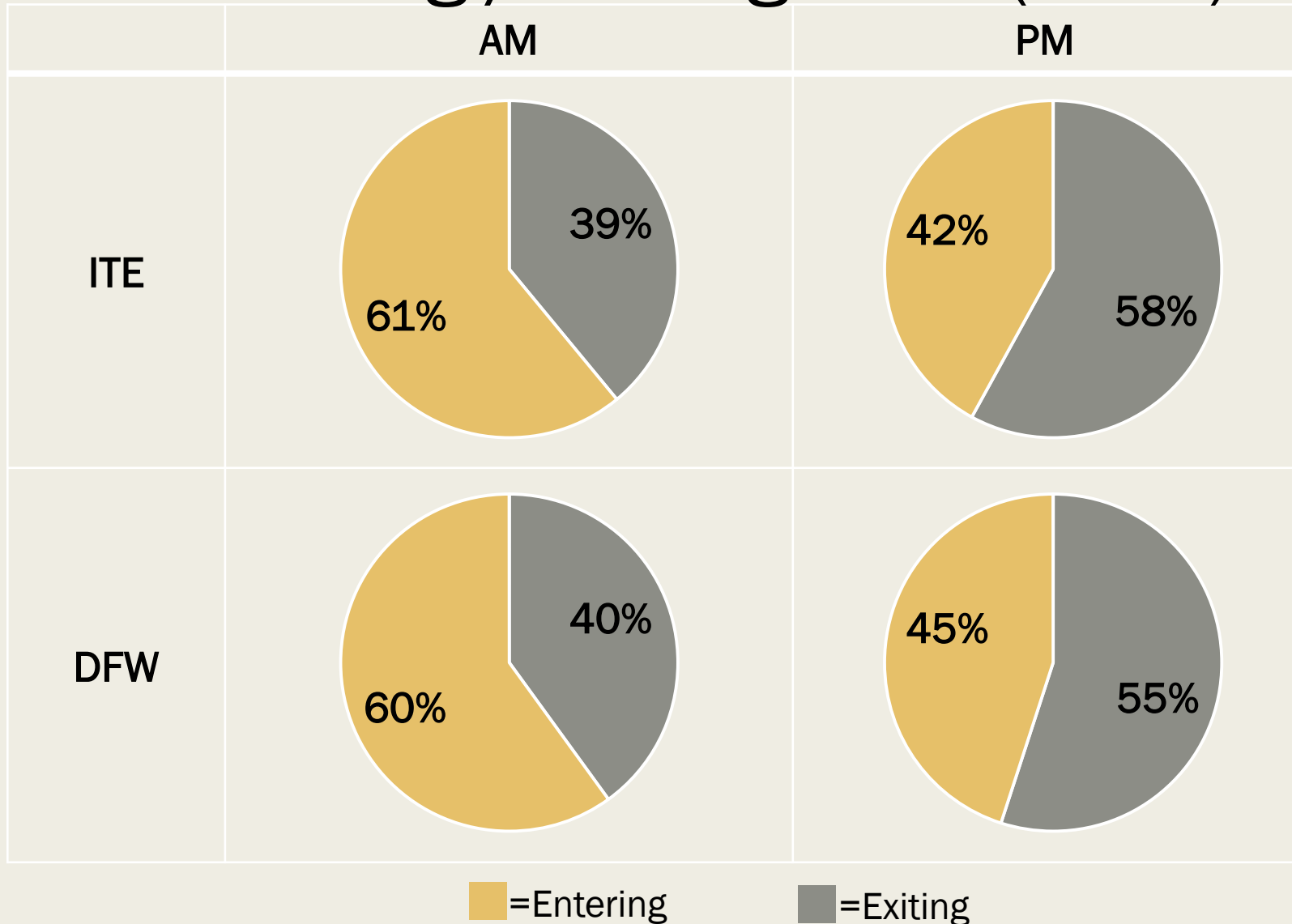
Peak Hour Factor

Peak Hour Factor (PHF)

0.92

	AM (K-8)	PM (K-8)	AM (K-12)	PM (K-12)
Entering	0.58	0.71	0.56	0.68
Exiting	0.59	0.57	0.49	0.51

■ Entering ■ Exiting
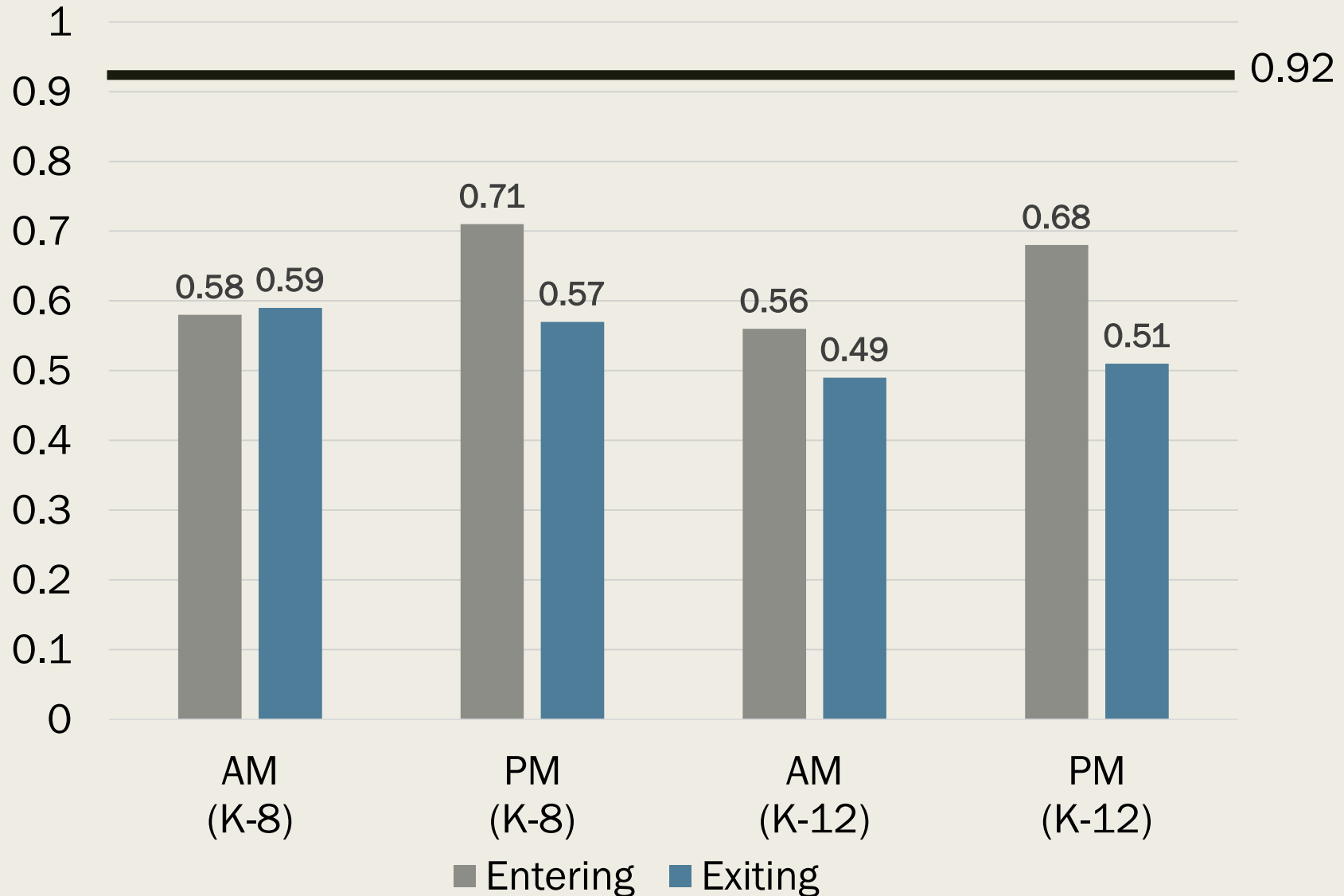
Impact on Traffic Analysis

- Higher Trip Generation

- Lower PHF

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Comparison to ITE Trip Generation (K-8)
800 Students

Bar chart comparing AM and PM trip generation (K-8) for 800 students. AM (K-8): ITE = 720, DFW total = 912, difference + 192. PM (K-8): ITE = 480, DFW total = 536, difference + 56. Legend: ITE (gray), DFW (blue).
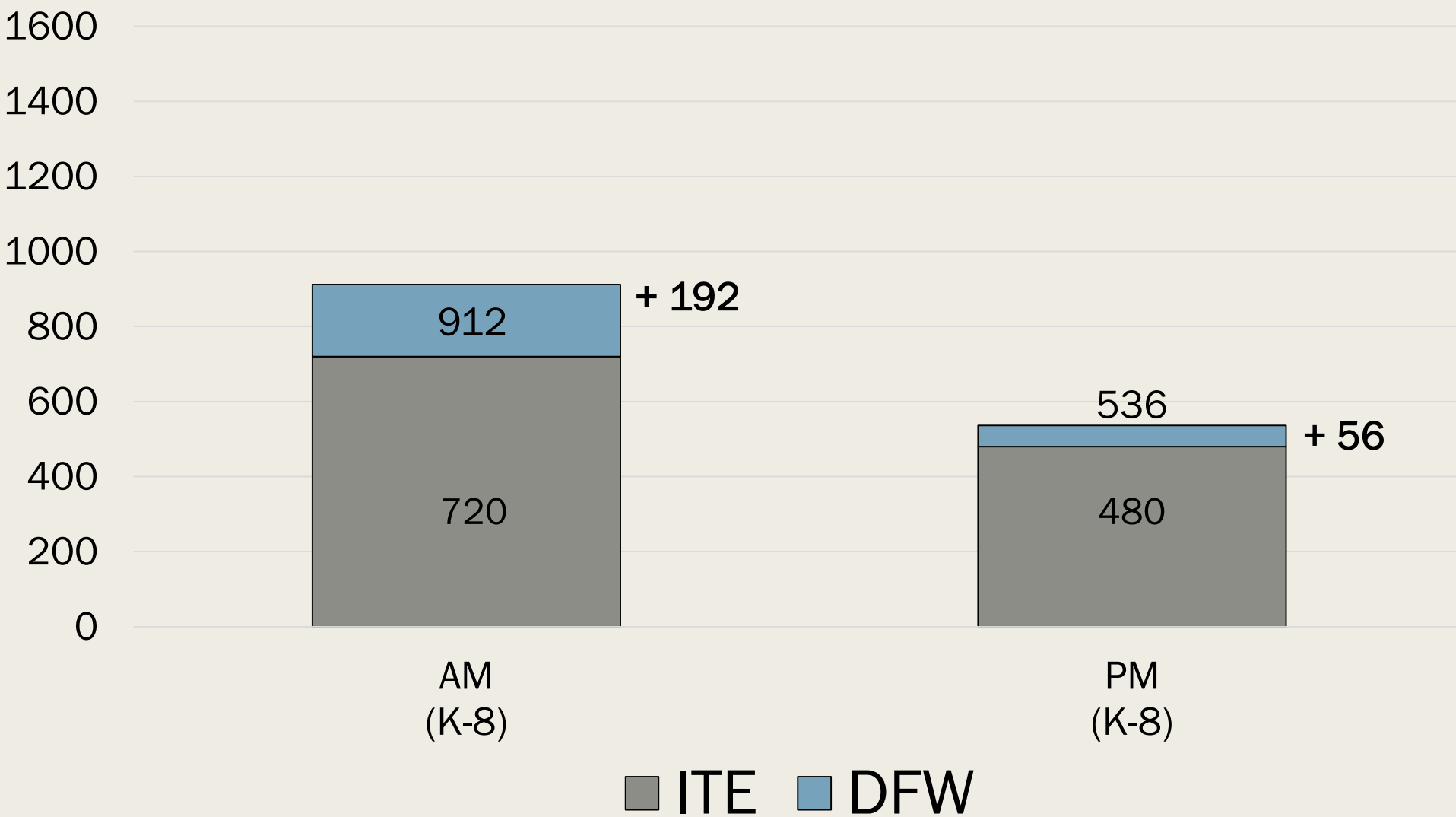
Trip Generation + PHF Impact (K-8)
800 Students

Chart: Stacked bar chart comparing ITE and DFW trip generation for AM and PM periods.

AM (K-8):
- DFW: 1,520 — PHF = 0.60
- ITE: 783 — PHF = 0.92
- + 737

PM (K-8):
- DFW: 893 — PHF = 0.60
- ITE: 522 — PHF = 0.92
- + 371

Legend: ITE, DFW
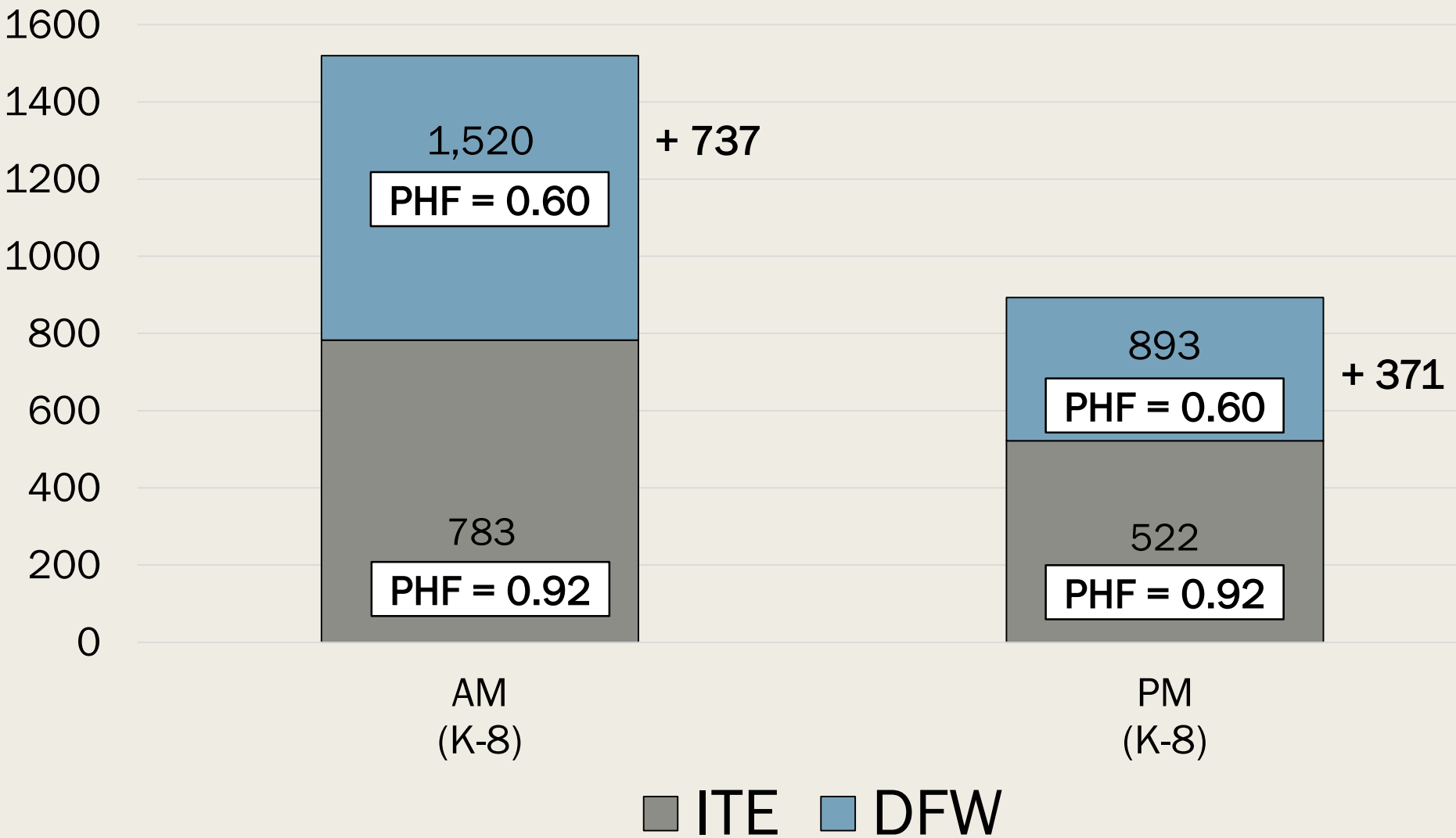
Comparison to ITE Trip Generation (K-12)
800 Students
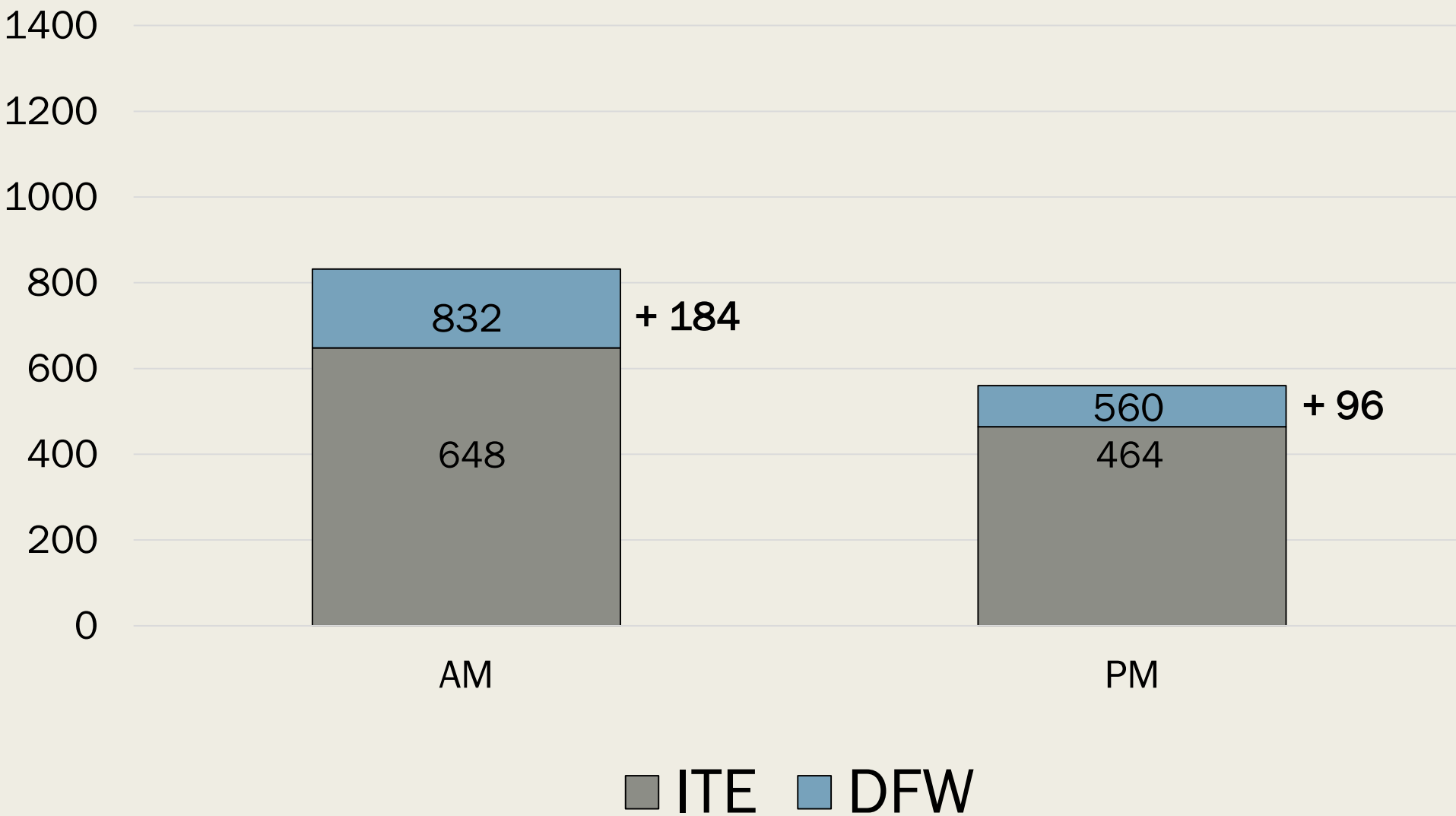
Trip Generation + PHF Impact (K-12)
800 Students

	AM	PM
DFW	1387 — PHF = 0.60	933 — PHF = 0.60
	+ 683	+ 429
ITE	704 — PHF = 0.92	504 — PHF = 0.92

Legend: ▢ ITE ▢ DFW
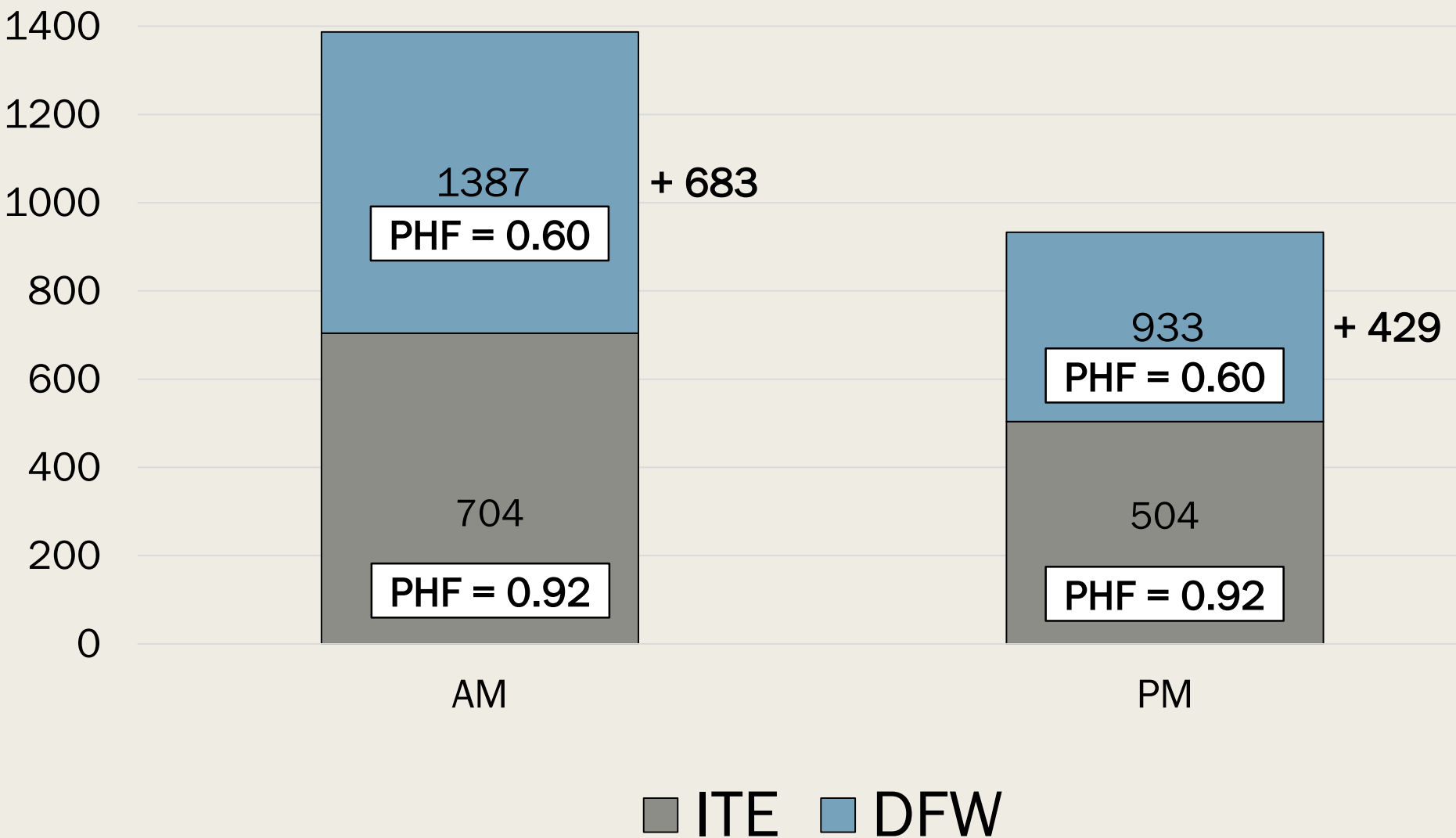
Queuing

Factors in Queuing Operations (PM)

■ Arriving Early

■ Number of Dismissals

■ Time Between Dismissals

■ Number of Students in Dismissal

■ Grades in Dismissal
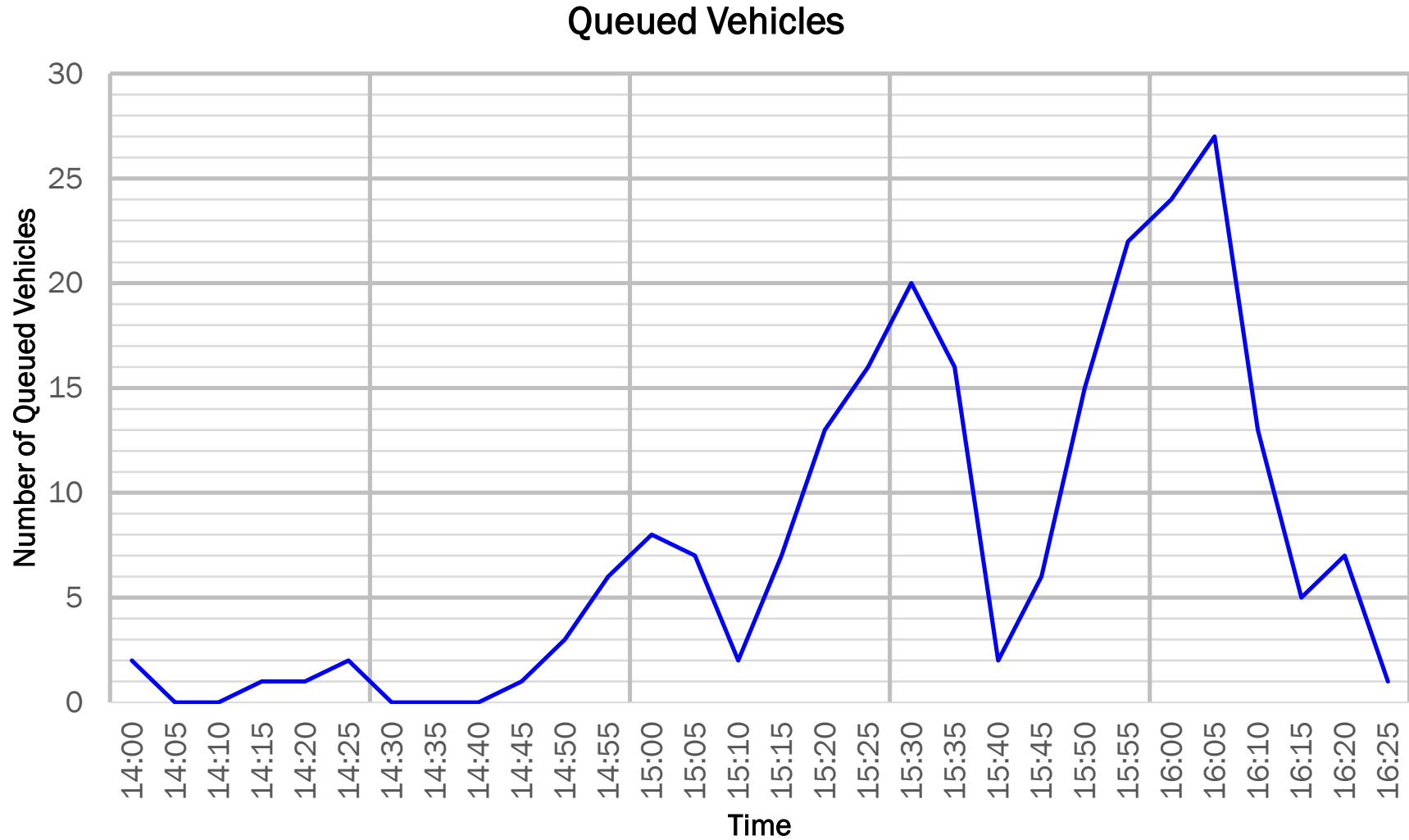
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Factors in Queuing Operations (PM)

- Number of Pick-Up Locations

- Distance to Walk to Vehicles

- Staff Assistance/Presence

- Pick-Up Technology Used (if any)

- ***Amount of On-site Queuing Available***

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Queuing Operations
Pick-Up Technologies
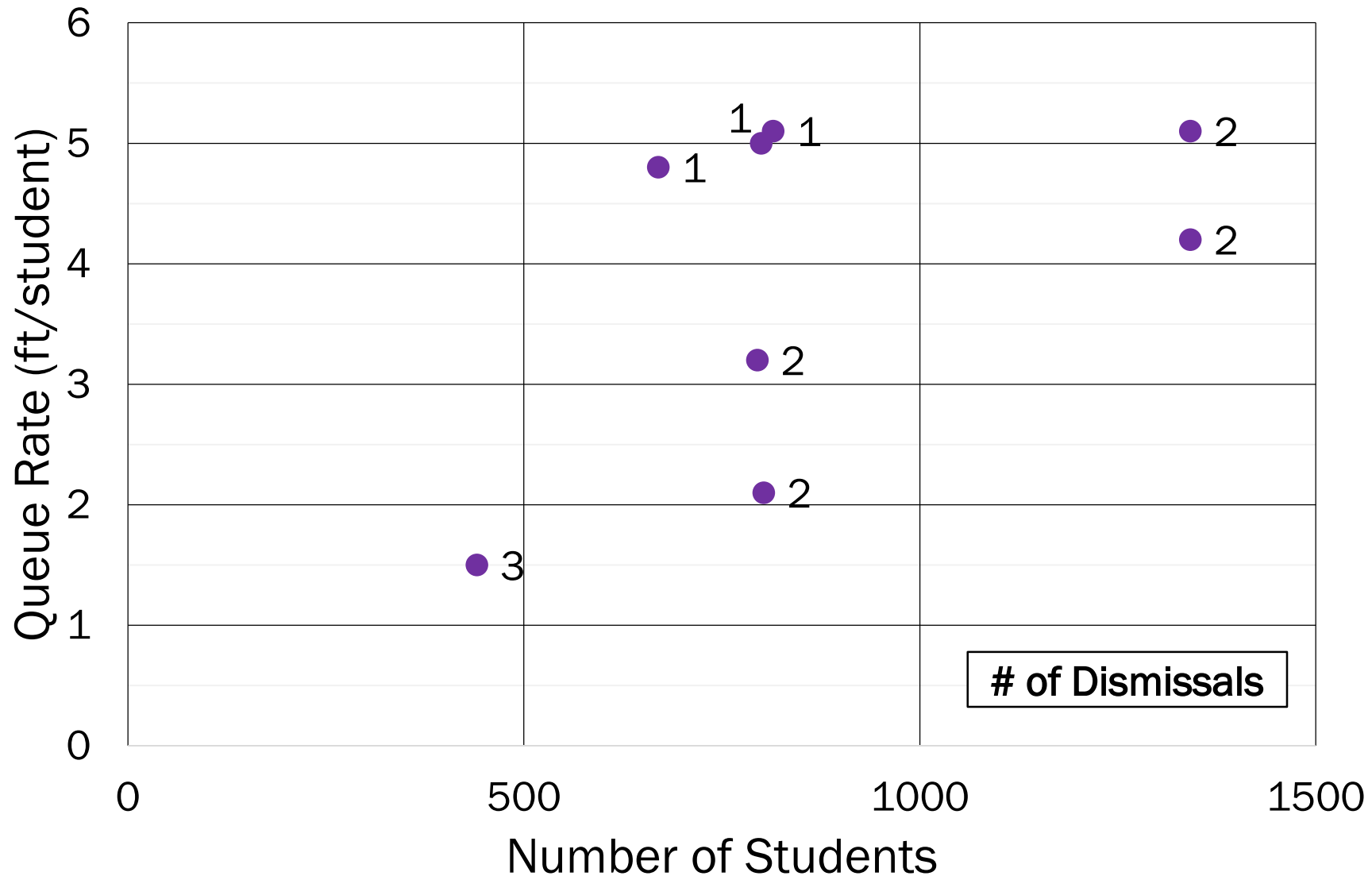
# Queuing Operation Sample

Queued Vehicles

Queuing Summary

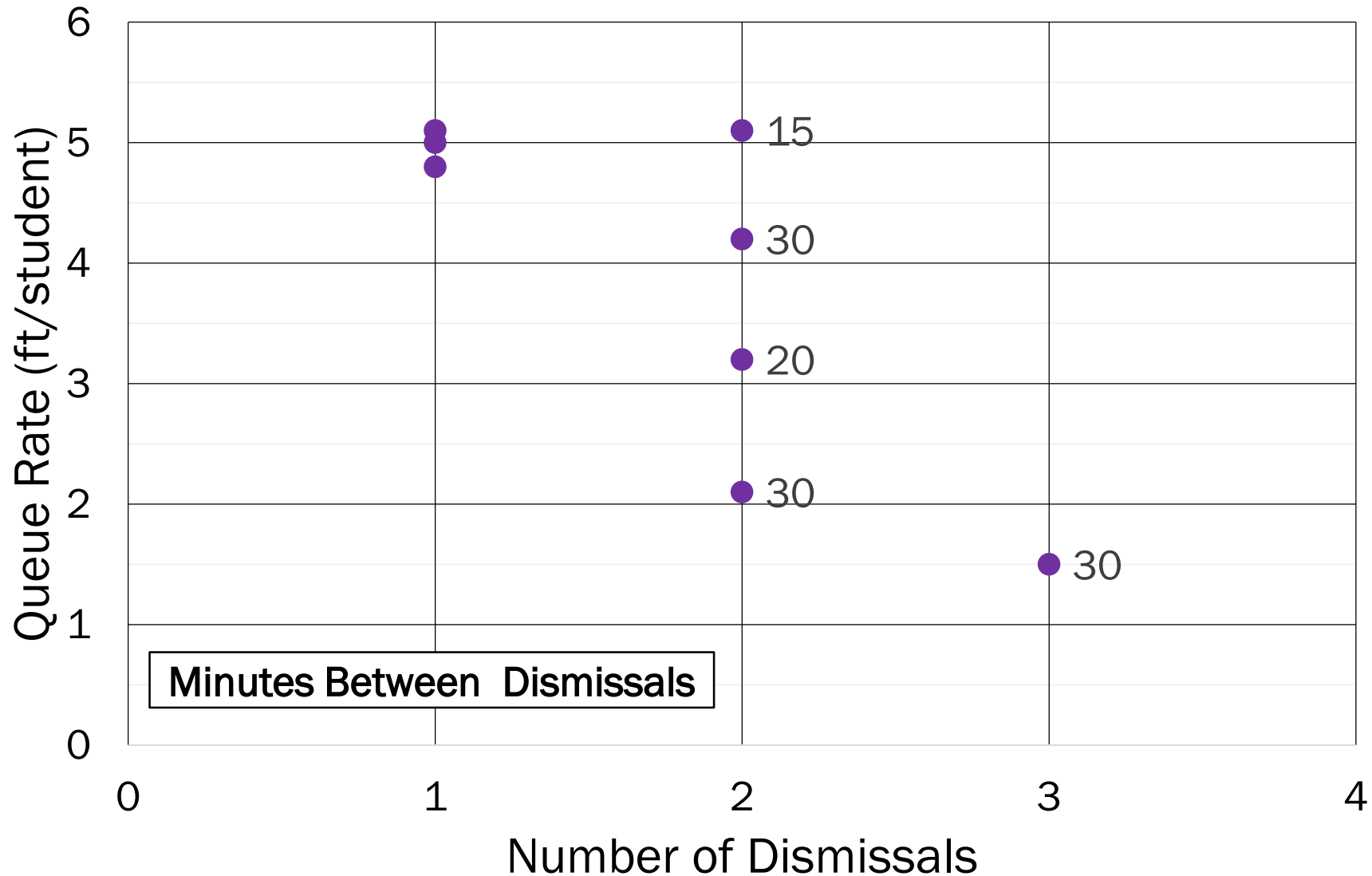| Queue Rate (feet/student)	Number of Students	Number of Dismissals	Time Between Dismissals (minutes)	Number of Pick-Up Locations
1.5	441	3	30	1
2.1	803	2	30	3
3.2	795	2	20	3
4.2	1342	2	30	5
4.8	670	1	-	2
5	800	1	-	3
5.1	815	1	-	1
5.1	1342	2	15	2

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Queuing Relationships (Enrollment)

Queuing Relationships (Number of Pick-Up Locations)
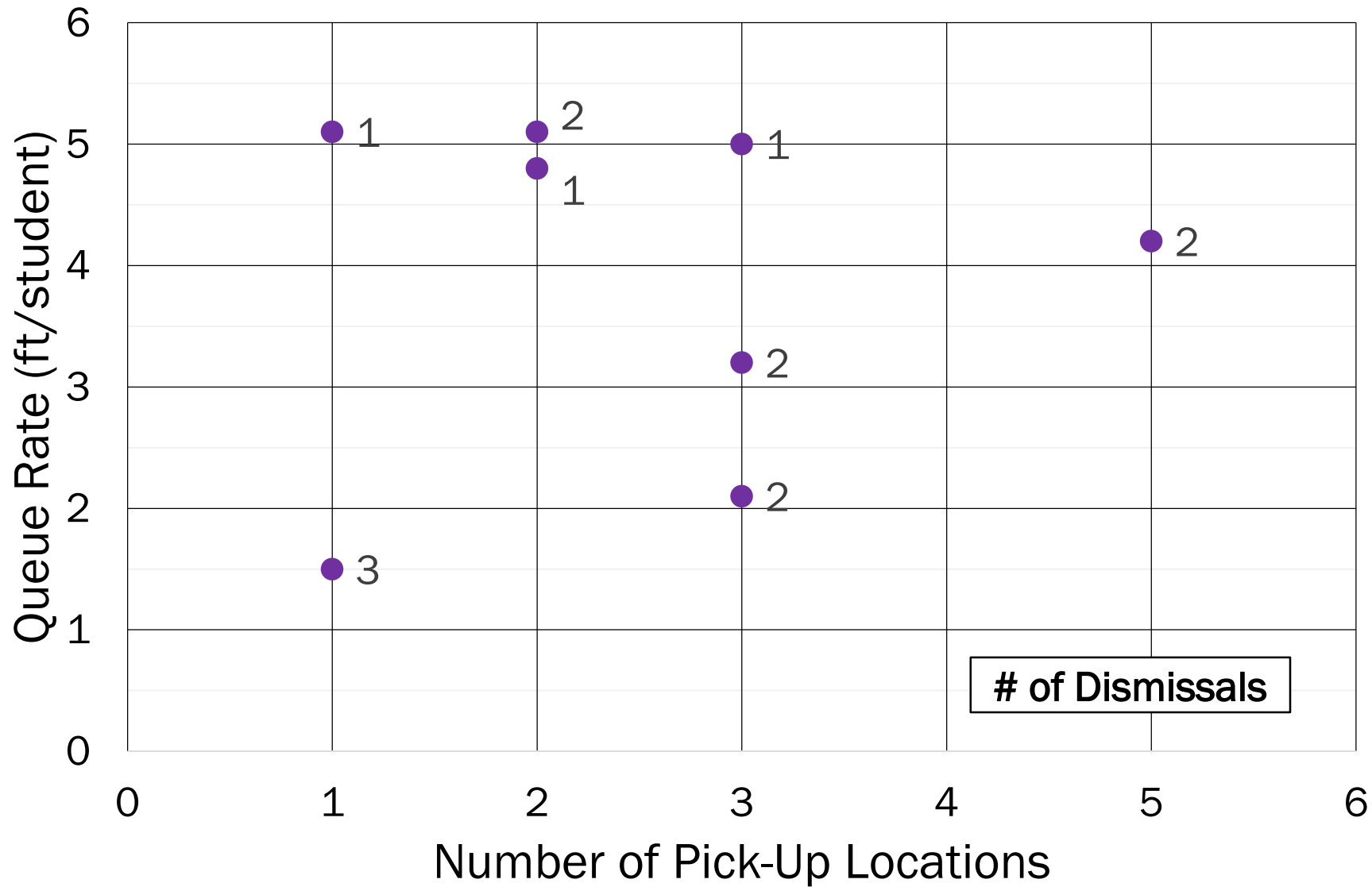
Queuing Relationships (Number of Dismissals)

Conclusions

- DFW Trip Generation > ITE Trip Generation

- % Entering / % Exiting Similar

- Use of Non-Default PHF

- Queuing Dependent on Many Operational Factors
  - *Site-by-site*
  - *Amount of queuing available on site*
  - *Number of dismissals*

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