

Ridership Measured and Applied

WCTFLIF Working Document

February 28, 2011

Lummi Island Grange Hall

Chandler Johnson

Agenda

- Conceptualizing ridership within the big picture
- Introducing the data:
 - What are available, and what should we use?
- Reviewing traffic:
 - What's going on with traffic volume?
 - Traffic composition?
- What recently happened to revenue?
- How to reconcile revenue and traffic trends?
- Applying ridership in the big picture

Ridership: One Puzzle-Piece in the Big Picture

From Task Force perspective:

Redefine or reduce TOC?

Change Fare-box
Recovery Rate?

Identify a set of fares
that will induce
ridership sufficient to
meet the target

Fare-box Recovery
Target = 55%*(TOC)

Ridership*Fares	
# Ped Cash	\$7
# Ped PC	\$4.6
# Veh Cash *	\$13
•	•
# Special	\$578

From Public Works
Admin. perspective:

**Total Operating Cost
(TOC)**

Most costs are fixed
in the short run

Recovery rate is fixed

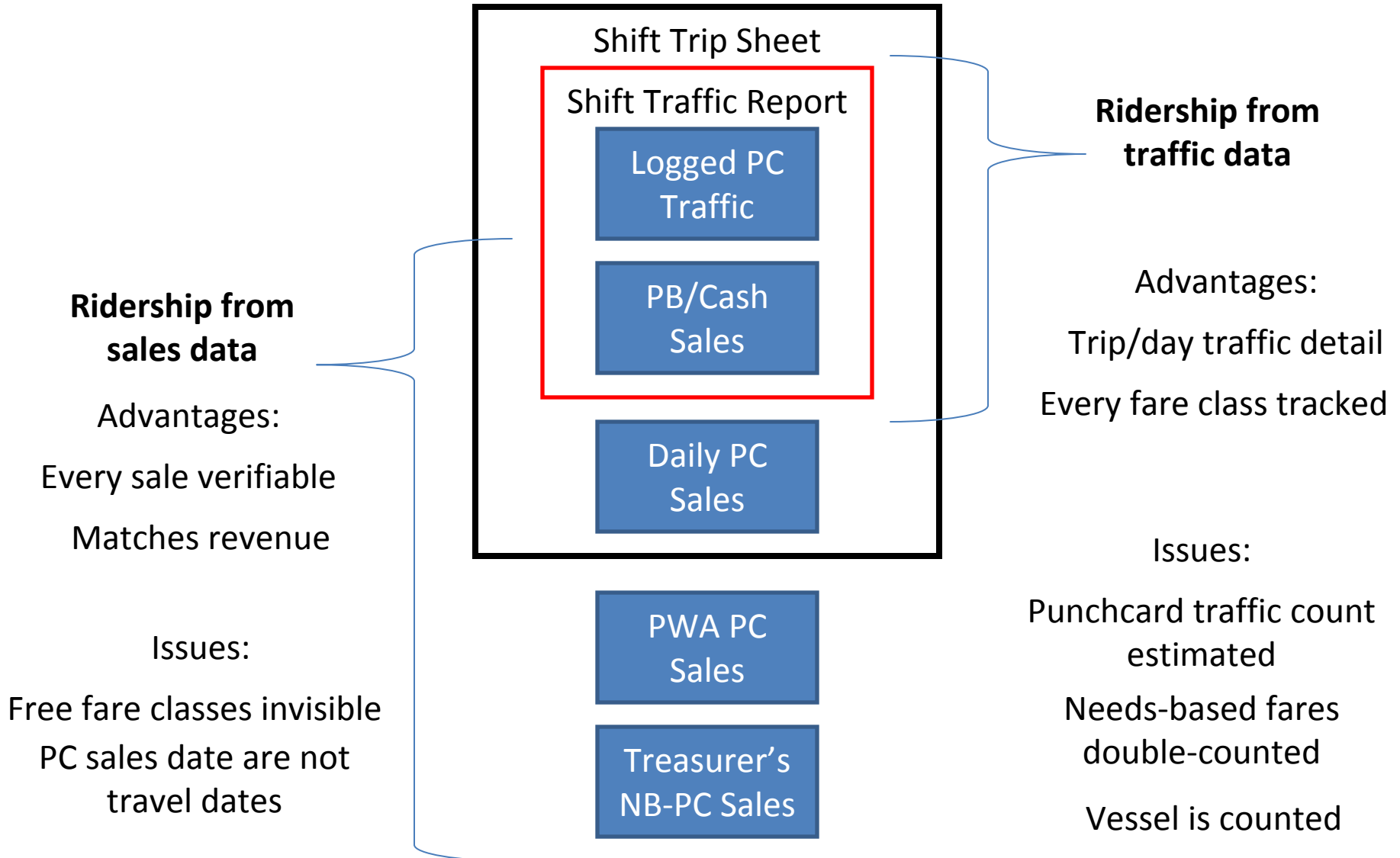
Ridership is not controllable

Fares are the only area
over which PWA has
significant short-term
control

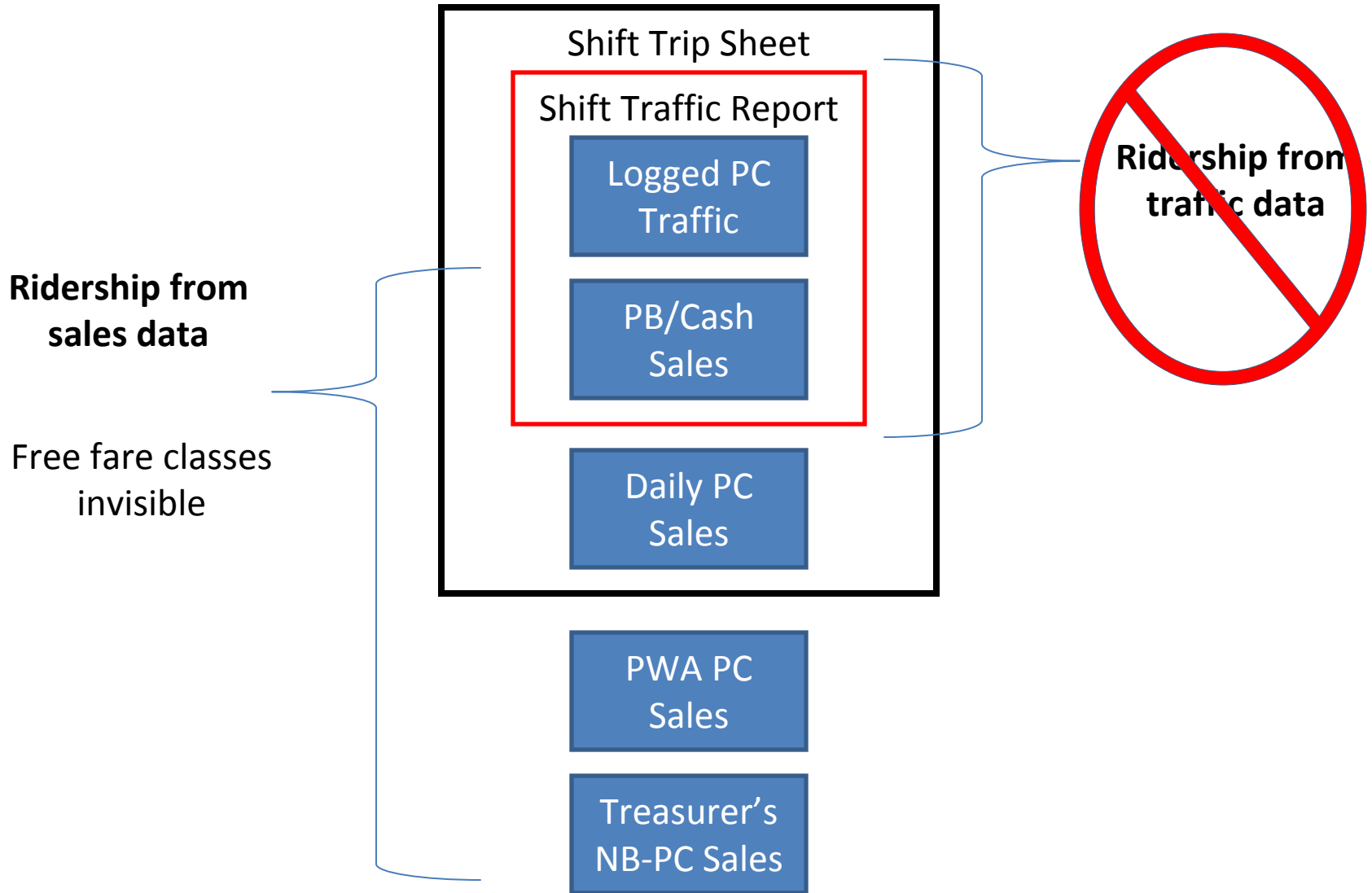
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Potential Ridership Data Sources



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Ticket Sales and Implied Ridership

Fare Class	Passage Multiple	Annual Ticket Sales				Inferred Annual Ridership			
		2007	2008	2009	2010	2007	2008	2009	2010
Pedestrian	1	44,856	35,229	30,739	26,750	44,856	35,229	30,739	26,750
Pedestrian (10)	10	19	15	0	0	190	150	0	0
Pedestrian (25)	25	1,637	1,793	1,829	1,652	40,925	44,825	45,725	41,300
NB Pedestrian (25)	25	74	112	164	153	1,850	2,800	4,100	3,825
School Child (25)	25	6	2	55	56	150	50	1,375	1,400
Bicycle	1	37	1,131	635	372	37	1,131	635	372
Motorcycle	1	624	788	418	302	624	788	418	302
Motorcycle (25)	25	0	0	34	18	0	0	850	450
NB Vehicle (10)	10	262	565	740	749	2,620	5,650	7,400	7,490
Vehicle	1	46,713	32,868	27,140	23,662	46,713	32,868	27,140	23,662
Vehicle (10)	10	67	275	222	232	670	2,750	2,220	2,320
Vehicle (25)	25	3,090	2,732	3,033	2,806	77,250	68,300	75,825	70,150
Sm Truck	1	1,141	959	659	568	1,141	959	659	568
Sm Truck (10)	10	83	139	95	53	830	1,390	950	530
Med Truck	1	371	262	172	174	371	262	172	174
Med Truck (10)	10	31	50	58	41	310	500	580	410
Large Truck	1	215	148	80	85	215	148	80	85
Large Truck (10)	10	62	67	31	32	620	670	310	320
Trailer < 16	1	456	425	404	346	456	425	404	346
Trailer 16-30	1	282	306	290	257	282	306	290	257
Trailer > 30	1	34	35	23	16	34	35	23	16
Special Trip	1	5	11	8	6	5	11	8	6
TOTAL		100,065	77,912	66,829	58,330	220,149	199,247	199,903	180,733

One PC is counted as one ticket (275 PC 10 trip tickets were sold), while ridership is inferred by using number of trips (10 trips x 275 PC sold = 2,750 riders)

Ticket Sales and Ridership Change

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PWA reports ticket sales and their changes over time. That can easily be confused with ridership changes; comparing 2008 to 2009 shows that ticket sales were down by 14.2% as the composition of the tickets sold changed, but ridership was flat.

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Single trip vehicle and 10 trip PC ticket sales went down by 5728, while vehicle 25 trip PC sales increased by only 301 tickets, a net decrease of over 5400 tickets. But net ridership increased by about 1300.

Some Ridership Puzzles

<i>Fare Class</i>	Inferred Annual Ridership			
	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Aggregate Pedestrian	87,821	83,004	80,564	71,875
School Child (25)	150	50	1,375	1,400
Bicycle	37	1,131	635	372
Motorcycle	624	788	418	302
Motorcycle (25)	0	0	850	450
Aggregate Vehicle	127,253	109,568	112,585	103,622
Aggregate Truck	3,487	3,929	2,751	2,087
Aggregate Trailer	772	766	717	619
Special Trip	5	11	8	6
TOTAL	220,149	199,247	199,903	180,733
%CHANGE		-9.49%	0.33%	-9.59%

Why has vehicle traffic fallen 18.12%, while pedestrian traffic also fell 18.11%? Where is the displacement from fewer vehicles to more pedestrians or more vehicles to fewer pedestrians?

Why did ridership fall, stabilize, and fall?

Some Ridership Puzzles

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What was up with 2009 motorcycle traffic? It was much higher than other years.

Why did truck traffic, and small truck traffic in particular, fall so much?

Some Ridership Puzzles

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Are bikes the canaries in the macroeconomic mine?

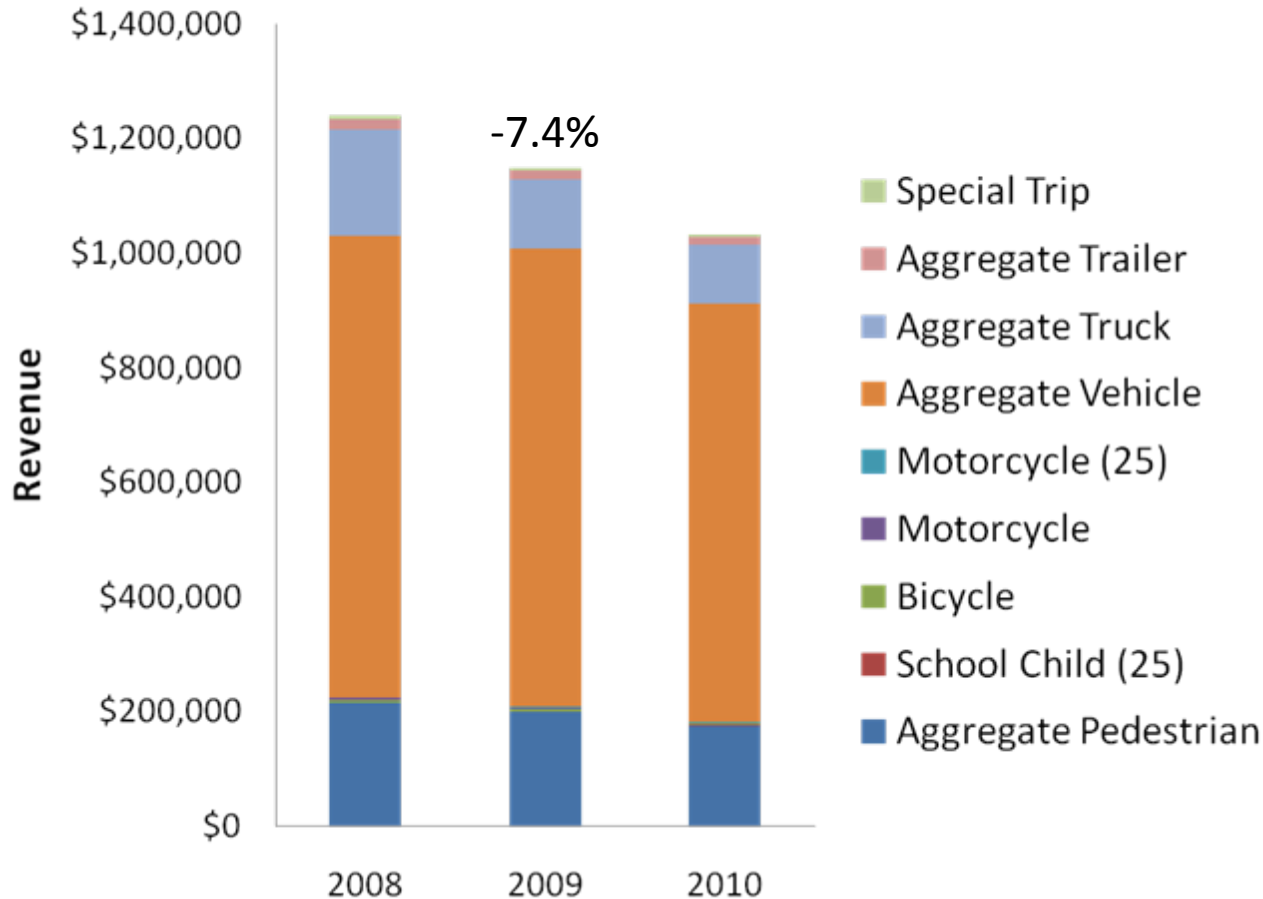
Ridership did not fall in 2009, so why did revenue decrease by about \$91,000?

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Marrying Ridership and Revenue

Revenue by Passage Type

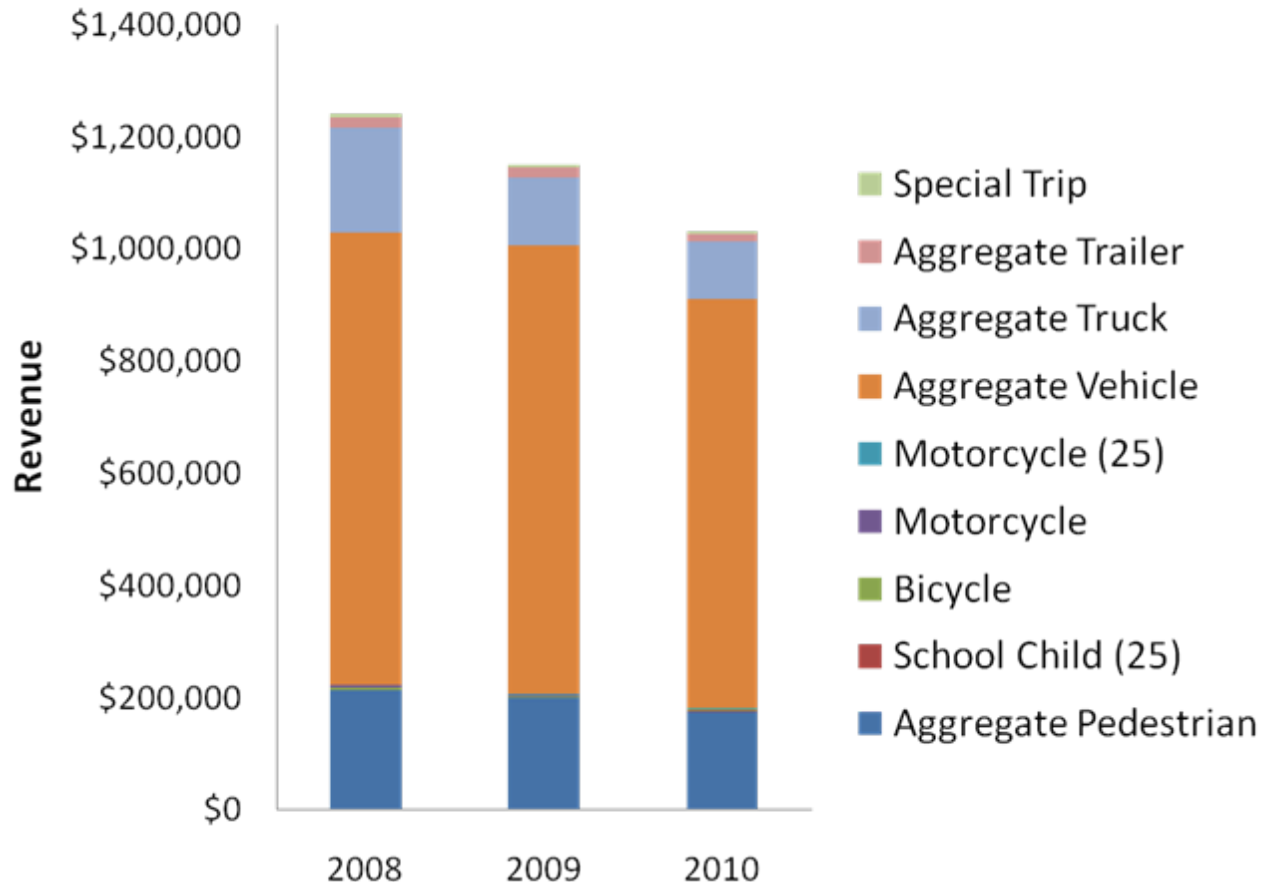


Total revenue was ~\$91K less in 2009 than it was in 2008, a drop of ~7.4%

NOTE: 2008 revenue based on 2008-2010 fares

Marrying Ridership and Revenue

Revenue by Passage Type



Truck traffic fell
~\$66K, making up
~72.2% of the total
revenue reduction

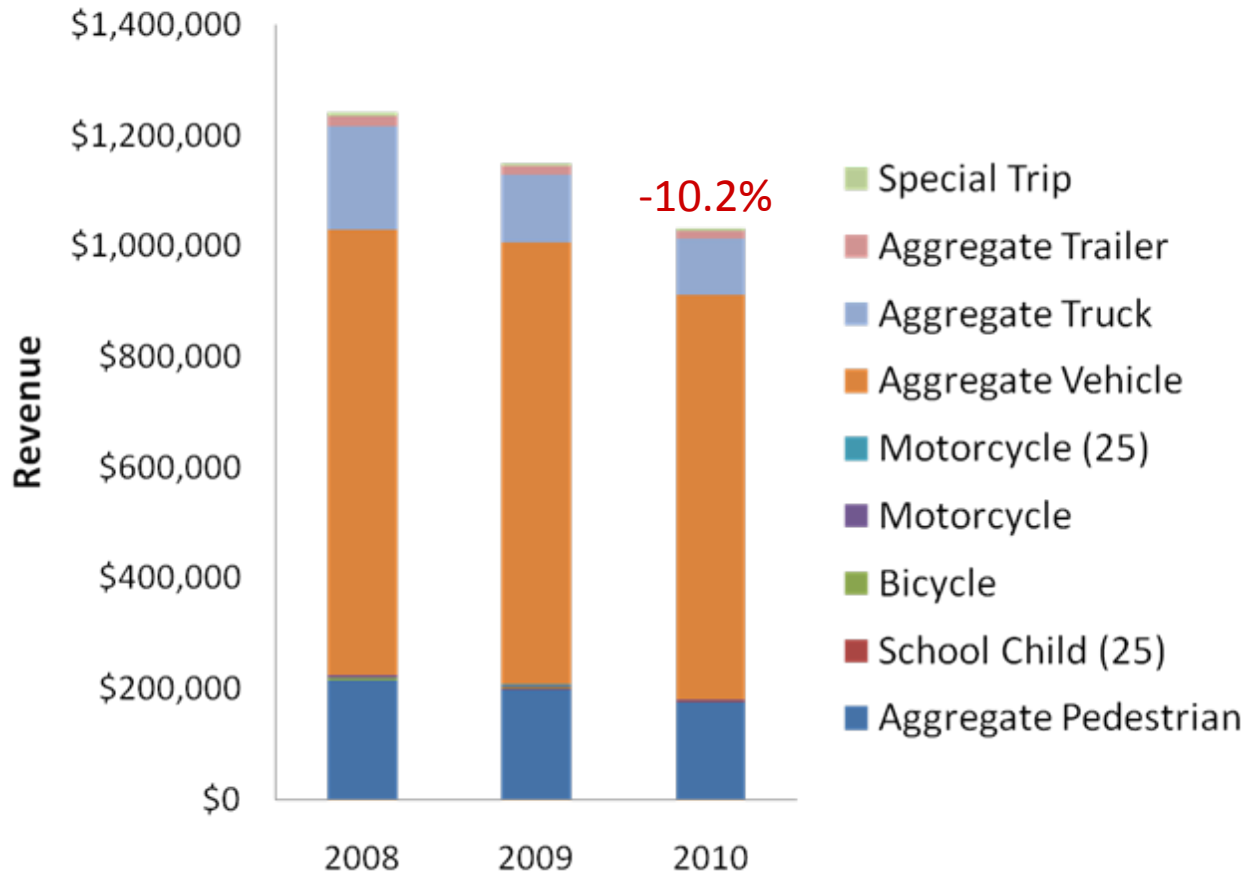
2009 vehicle traffic
and revenue were
basically the same
as 2008

2009 pedestrian
traffic and revenue
both fell

NOTE: 2008 revenue based on 2008-2010 fares

Marrying Ridership and Revenue

Revenue by Passage Type



2010 revenue fell ~10% from a universal traffic reduction rather than changes in traffic patterns

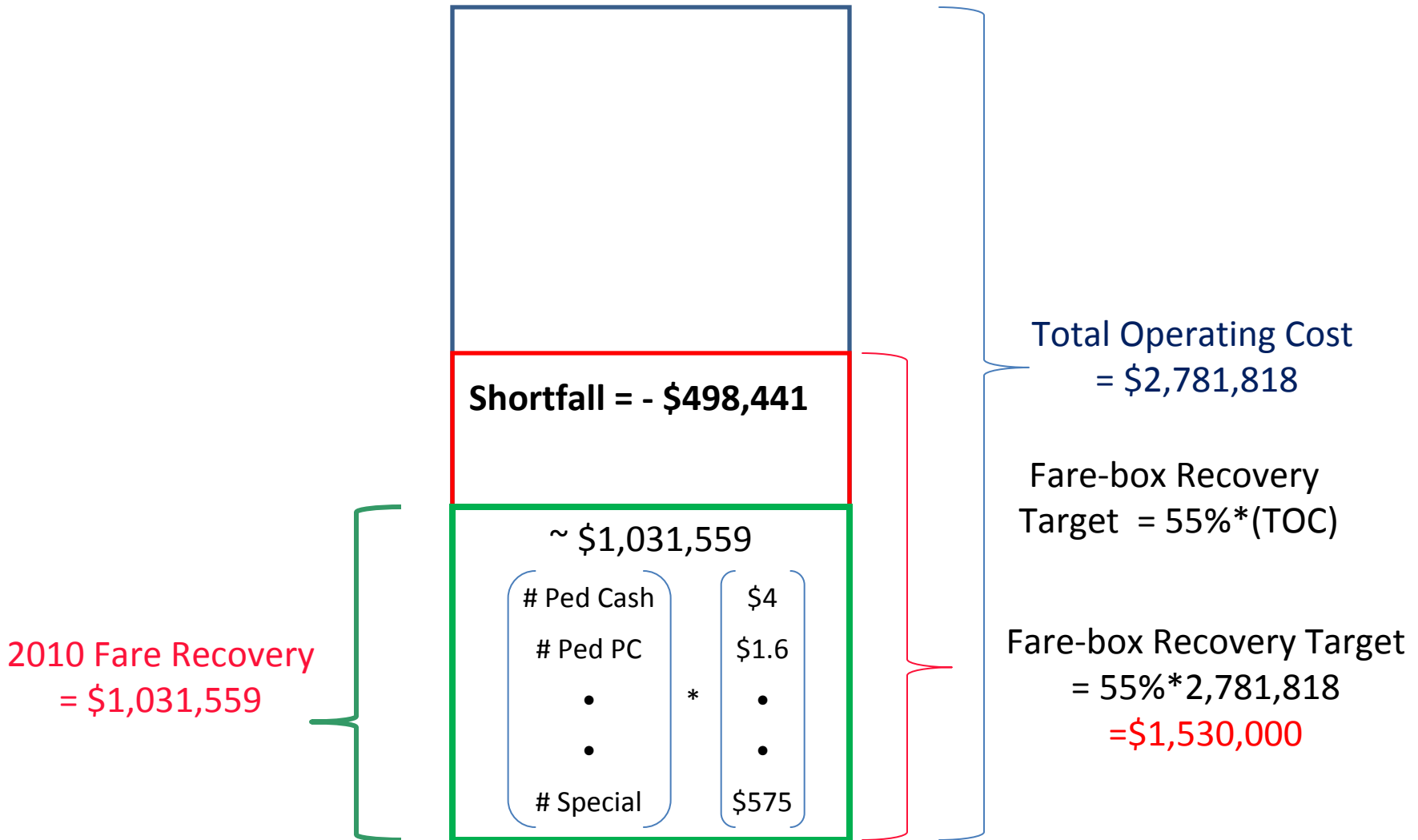
All major fare classes fell, but small truck traffic fell ~32%

NOTE: 2008 revenue based on 2008-2010 fares

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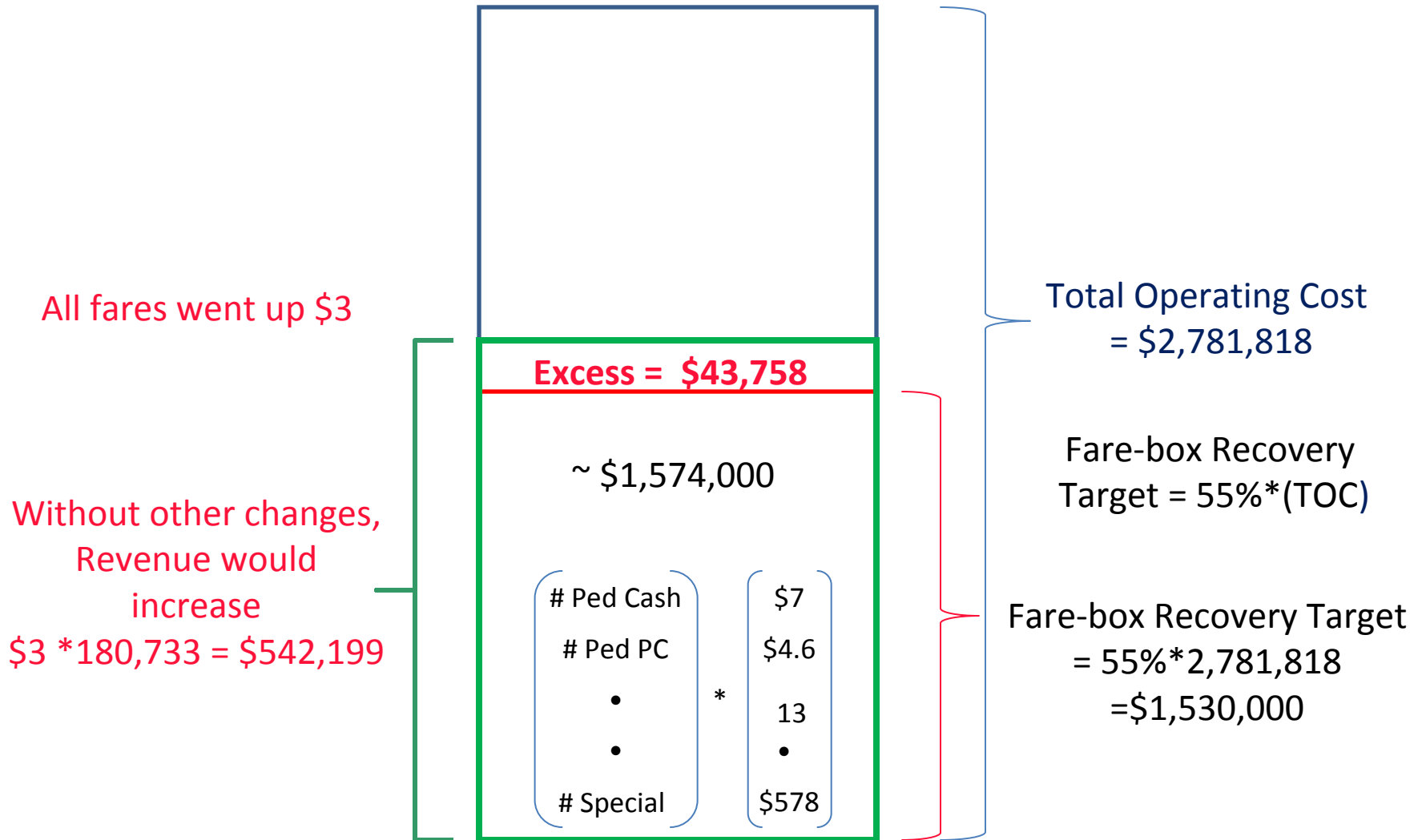
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2010 Ridership in the Big Picture



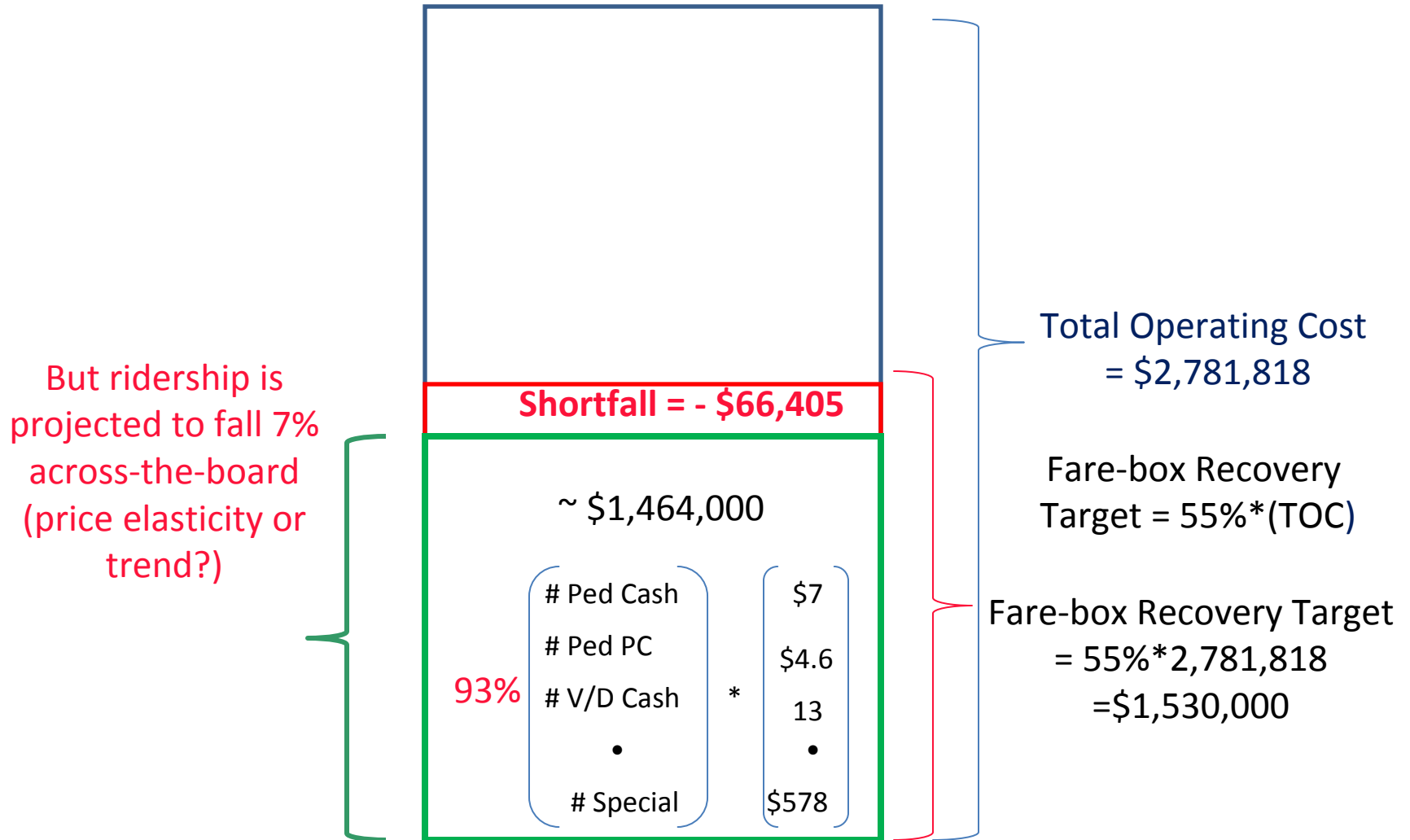
NOTE: TOC inferred from 'PWA's Ferry Ticket Sales – 2011 Projections'

2011 Ridership in the Big Picture



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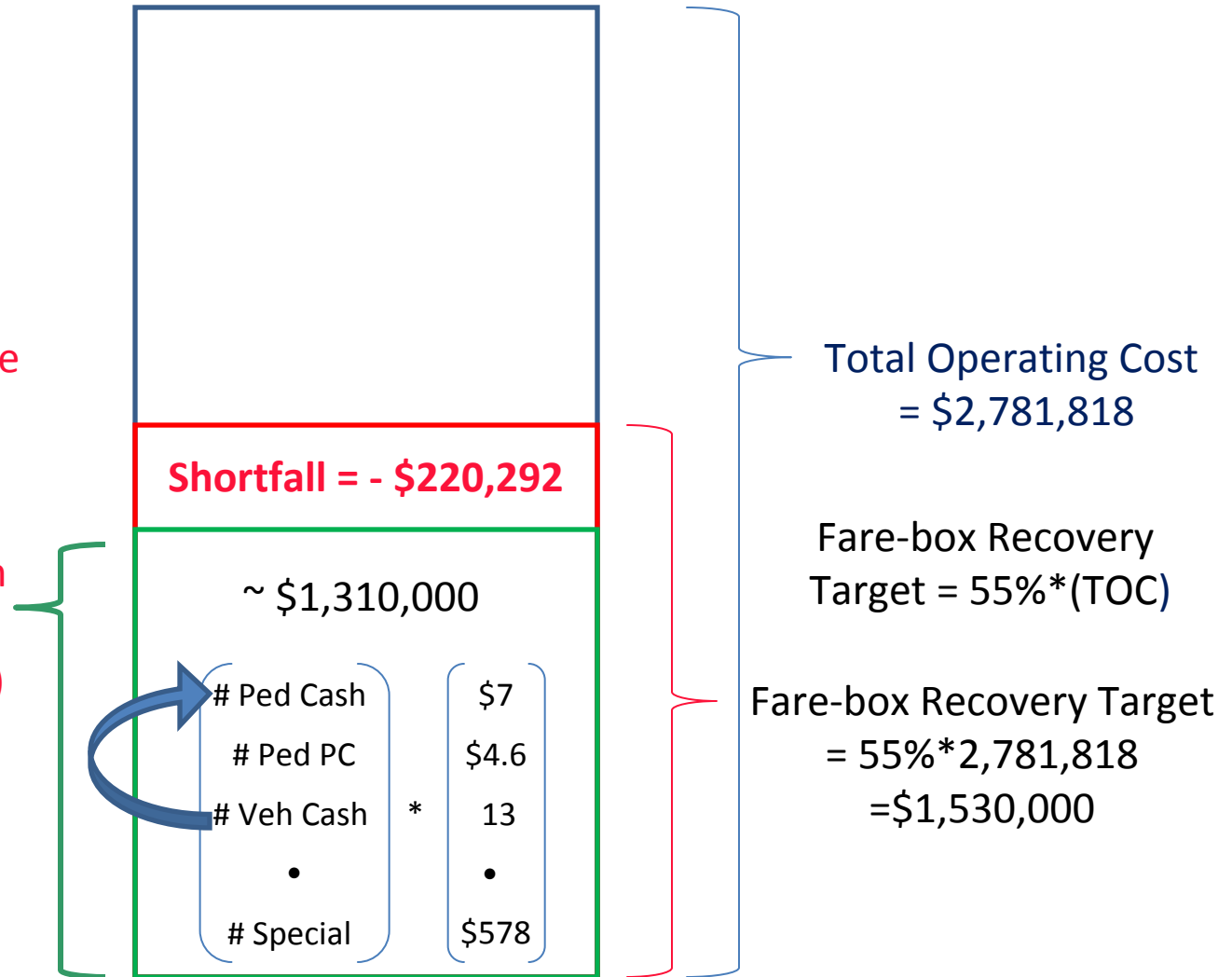
2011 Ridership in the Big Picture



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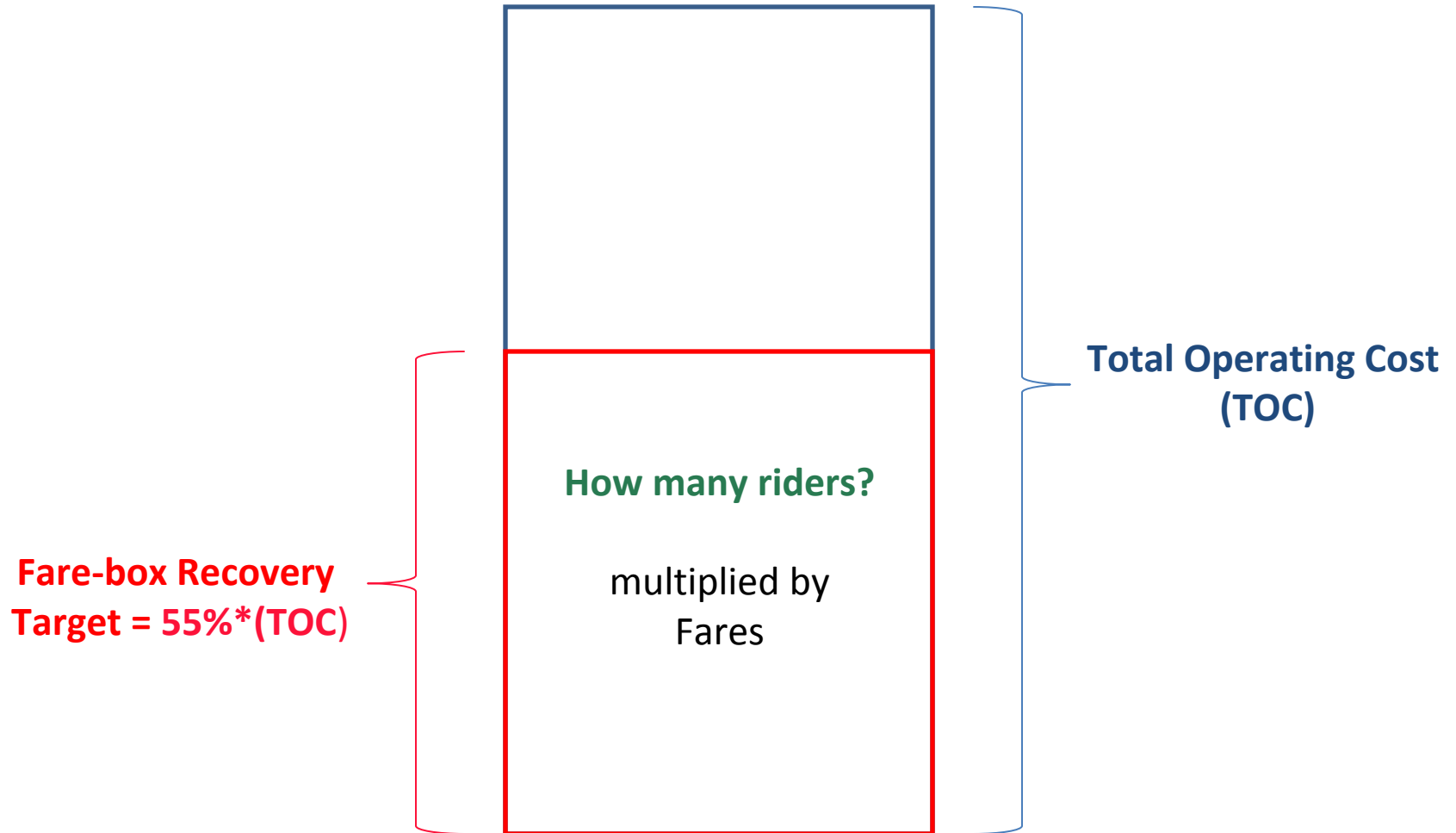
2011 Ridership in the Big Picture

PWA's scenarios include a case where vehicle traffic falls by an additional 20%, offset 100% by an increase in cash-fare pedestrian traffic (cross elasticity)



NOTE: TOC inferred from 'PWA's Ferry Ticket Sales – 2011 Projections'

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Comments, Questions?