



# THE FUTURE OF THE TAXI MEDALLION SYSTEM & FOR-HIRE SERVICES IN A DISRUPTIVE TECHNOLOGY WORLD

By Professor Matthew W. Daus, Esq.



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## WHAT IS A MEDALLION?

- Legally protected property interest that permits yellow cabs to pick up street hail in a **closed market system**
- **A financial asset** traded in the open market to determine its market value

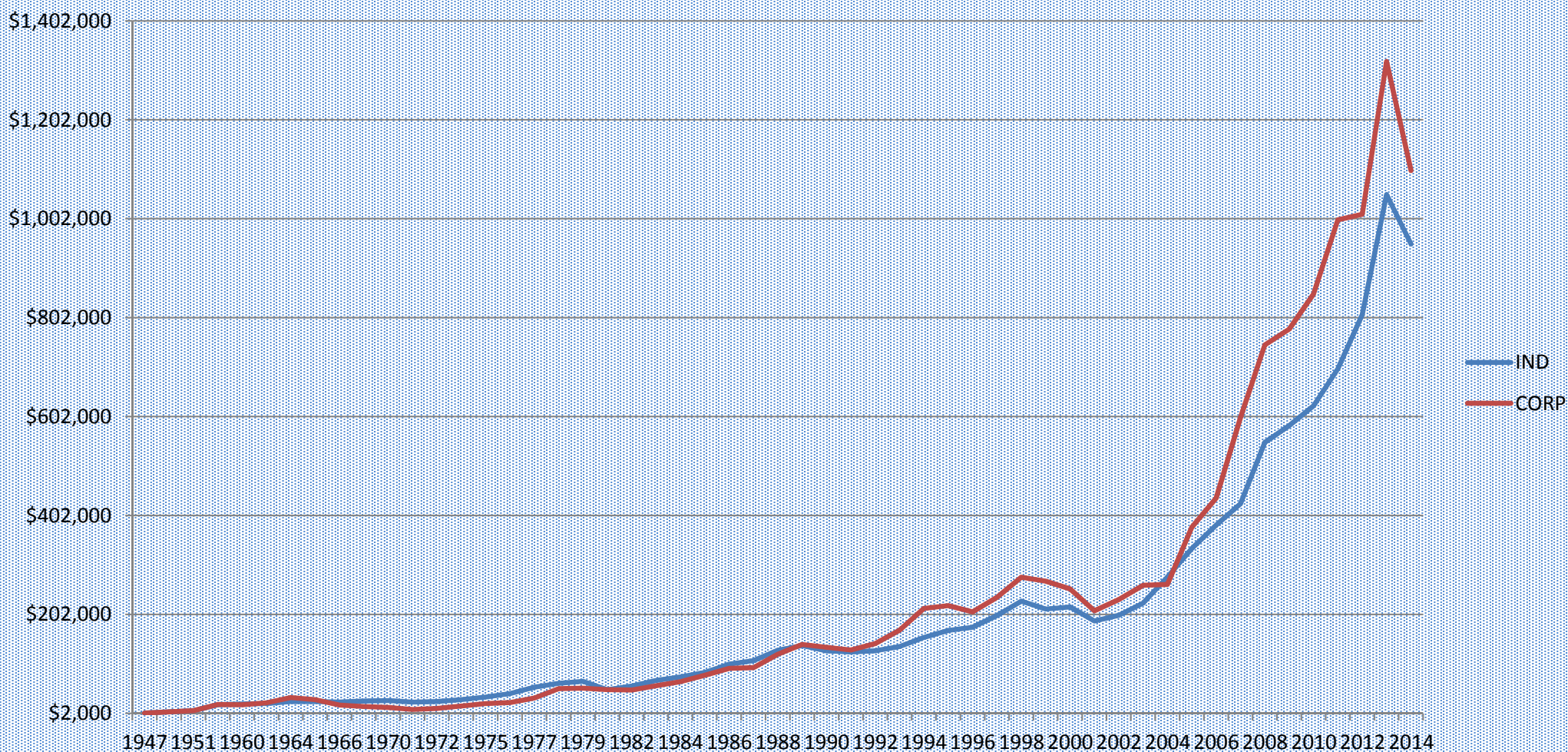
## WHAT ARE SOME THE FACTORS THAT ALLOW MEDALLION TO ATTAIN ITS VALUE?

- Cash flow from operating activities (taxi fares)
- Transferability
- Rate of Return (medallion future value)
- Interest rate on medallion loans
- Labor supply (taxi drivers)
- Actual and projected ridership demand
- Regulatory environment
- Macroeconomic scenarios

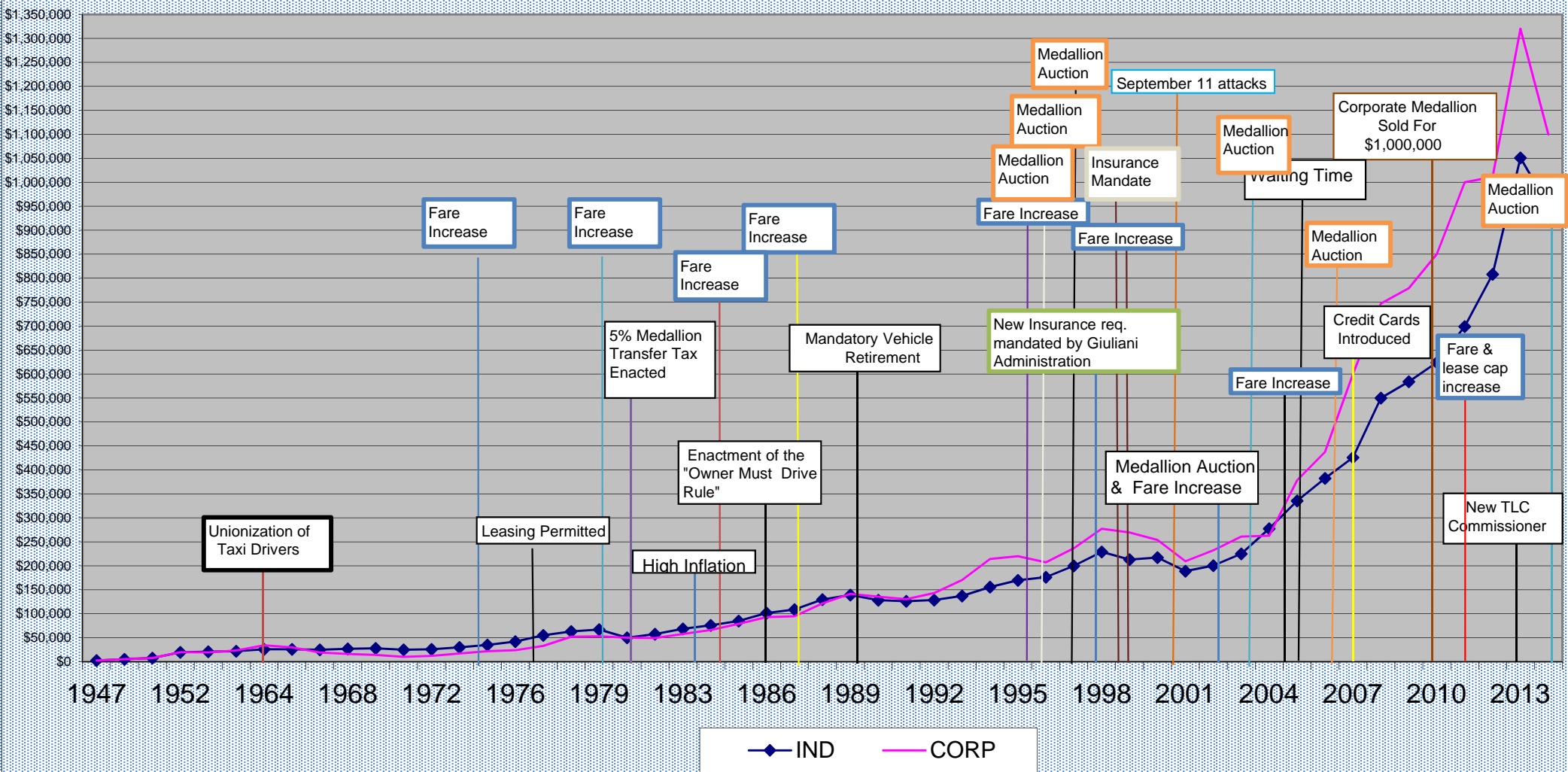
## HISTORICAL DATA

	Average Independent Medallion Price	Average Corporate Medallion Price
1947	\$2,500	\$2,500
2014	\$951,013.73	\$1,099,595
% Change	52,700%	43,880%

# Yearly Average Medallion Purchase Price 1947-2014



# Yearly Average Medallion Purchase Price 1947-2014



# Disruptive Apps Proliferation



The image displays a large collection of logos for various transportation and ride-sharing applications. Prominent logos include Uber, Lyft, and several others with taxi-related icons like cars, checkered flags, and the word 'TAXI'. The logos are arranged in a dense, overlapping grid, showcasing the rapid growth and variety of apps in this market.



# THE UBER EFFECT

- Surge Pricing
  - drivers work less hours & earn more money
- Millions of dollars worth of marketing
  - predatory pricing
- Use of unlicensed drivers/vehicles
  - lower operating cost
- On-demand “taxi service” with smartphone app’s built-in meter
  - No need to buy a medallion to operate like a taxi

## THE UBER EFFECT - NYC, CHICAGO, PHILADELPHIA, & BOSTON

- In the past two years, medallion transfer prices have lost significant value.
- Some cities have completely abandoned or put on hold their plans to auction more medallions.
- NYC has registered one of the largest decreases in medallion transfer prices falling from \$1,320,000 in 2013 to \$950,000 in over 17 months.
- Medallion jurisdictions handling of TNC entry contributed to the decrease in medallion transfer prices.

## THE UBER EFFECT - CHICAGO

- Chicago allowed unfettered proliferation of TNC vehicles without the same regulatory burdens that are imposed on medallion taxicabs. (insurance, driver's license, background check... )
- This contributed to revenue decline, and investor & market fear that lead to medallion transfer price to drop from \$375,000 (2012) to \$256,000 (2015).
- The auction of 50 taxi medallions that normally could have secured the city over \$18 million has yet to be completed after more than a year, for reasons that remain unclear.

## THE UBER EFFECT -PHILADELPHIA

- October 2014 - there was no interest in the auction of 20 accessible medallion each at \$475,000 .
- November 2014 - unable to attract any bidders, the Philadelphia Parking Authority (PPA) lowered the asking price to \$350,000.
- March 2015 - with no bidders, the PAA has decided to take sealed bids starting at \$50,000.
- The cost of buying new, accessible taxi vehicles, combined with TNCs illegal operation in Philadelphia are some of the reason cited by the industry for the lack of interest in the auction.



## THE UBER EFFECT - NYC

- In NYC, despite the TLC placing its planned auctions on hold, it has strongly clamped down early on illegal operations of TNCs, which led to Uber and Lyft obtaining licenses like everyone else.
- However, despite the TLC's effort to create a level playing field for all industry participants, medallion transfer price has been significantly reduced, by over 25%, creating a credit crunch as a result of financial institutions reluctant to facilitate the financing of medallions.
- The result ...

Are Banks Running Scared of Medallion Loans?

NEW YORK  
**BUSINESS JOURNAL**

Uber's heavy impact on taxi industry is plainly seen in the (falling) numbers

**TIME**

**Uber Is Squeezing Taxi Owners, Too**

*The Washington Post*

**Investors who can't bet on Uber are betting instead on the death of taxi medallions**

Taxi Owners in New York Seek Inquiry on Medallion Prices

MONEY & BUSINESS

**TAXI ASSOCIATIONS STRUGGLE WITH DROPPING MEDALLION PRICES**

**The Million-Dollar New York City Taxi Medallion May Be a Thing of the Past**

## FACTS

- While the doomsday stories are reported by newspapers, by financial market analysts with a short position in the equity market, and pundits who envision a continued decline of medallion transfer prices and an eventual demise of the medallion system, a critical set of unreported facts have been sitting on the sidelines.
  - T-PEP data
  - Litigation
  - Legislation

# REGULATORY FACTS & DATA

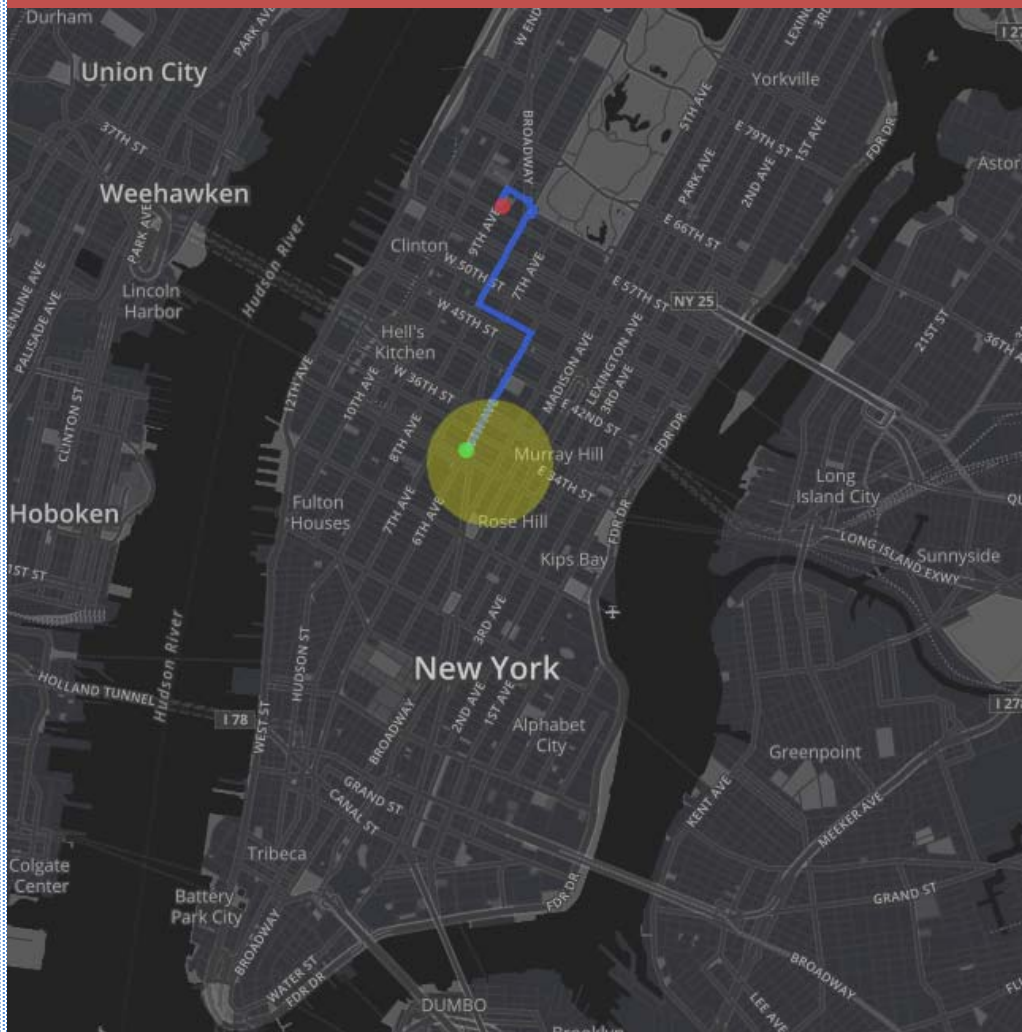


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# T-PEP DATA 2011-2014



- Over 100 MB data ~ two encyclopedia volumes
- Each with complete ridership information of each taxi ride
- Several data points - such as total ridership, revenue, average fare, tip, MTA tax, surcharge, etc...
- Data errors - minimal

# T-PEP DATA CONTENTS

- **Geographic Locations**

- **Pickup location**

- Pickup latitude
    - Pickup longitude
    - Pick up date time

- **Drop-off location**

- Drop-off latitude
    - Drop-off longitude
    - Drop-off date time

- **Trip Information**

- Trip distance
    - Trip Time
    - Passenger Count

- **Fare Information**

- Fare amount
    - Rate code
    - Tip amount
    - Toll amount
    - Mta tax
    - Total amount

Drop-off latitude	56236.2659
Drop-off longitude	-569.235
Drop-off date time	Jan1 2014 11:25:11

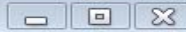
Trip Information	
Passenger count	1
Trip Distance	12 miles
Trip Time	14:11

Pickup latitude	15326.2356
Pickup longitude	25362.326
Pickup date time	Jan 1 2014 11:11:23

- **Fare Information**

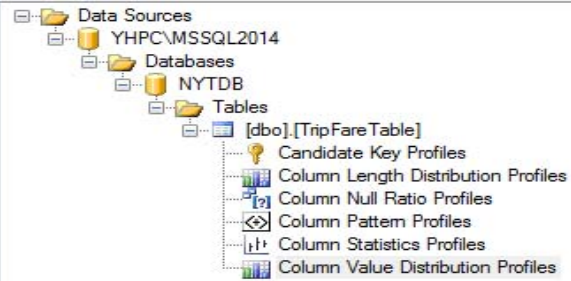
surcharge	
Rate code	1
Tip Amnt	2
Toll Amnt	0
Fare Amnt	6
Mta Tax	0.5
Total Amt	\$9.5

# Data Profile Viewer-



Open Refresh

Profiles (Table View)



Column Value Distribution Profiles - [dbo].[TripFareTable]

Column	Number Of Distinct Values
passenger_count	11
payment_type	5
pickup_datetime	26940298
rate_code	21
store_and_fwd_flag	2
TripFareID	165114361
vendor_id	2

Frequent Value Distribution (0.1000 %) - payment\_type

Encrypted Connection All Rows

Value	Count	Percentage
CRD	95571321	57.8819 %
CSH	68167680	41.2851 %
NOC	446007	0.2701 %
UNK	795761	0.4819 %

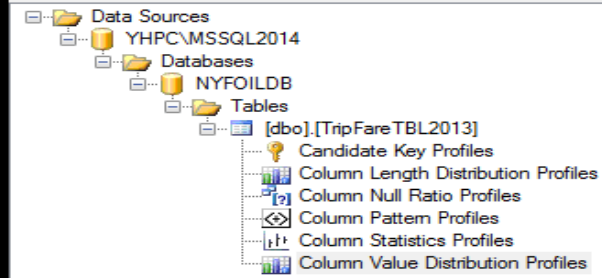
Successfully loaded data profile from ...

Message



Open Refresh

Profiles (Table View)



A tree view showing the hierarchy of data sources and profiles. The root is 'Data Sources', which contains 'YHPC\MSSQL2014'. Under this is 'Databases', which contains 'NYFOILDB'. Under 'NYFOILDB' is 'Tables', which contains '[dbo].[TripFareTBL2013]'. To the right of '[dbo].[TripFareTBL2013]' are several profile types: 'Candidate Key Profiles', 'Column Length Distribution Profiles', 'Column Null Ratio Profiles', 'Column Pattern Profiles', 'Column Statistics Profiles', and 'Column Value Distribution Profiles'.

Data Sources
YHPC\MSSQL2014
Databases
NYFOILDB
Tables
[dbo].[TripFareTBL2013]
Candidate Key Profiles
Column Length Distribution Profiles
Column Null Ratio Profiles
Column Pattern Profiles
Column Statistics Profiles
Column Value Distribution Profiles

Column Value Distribution Profiles - [dbo].[TripFareTBL2013]

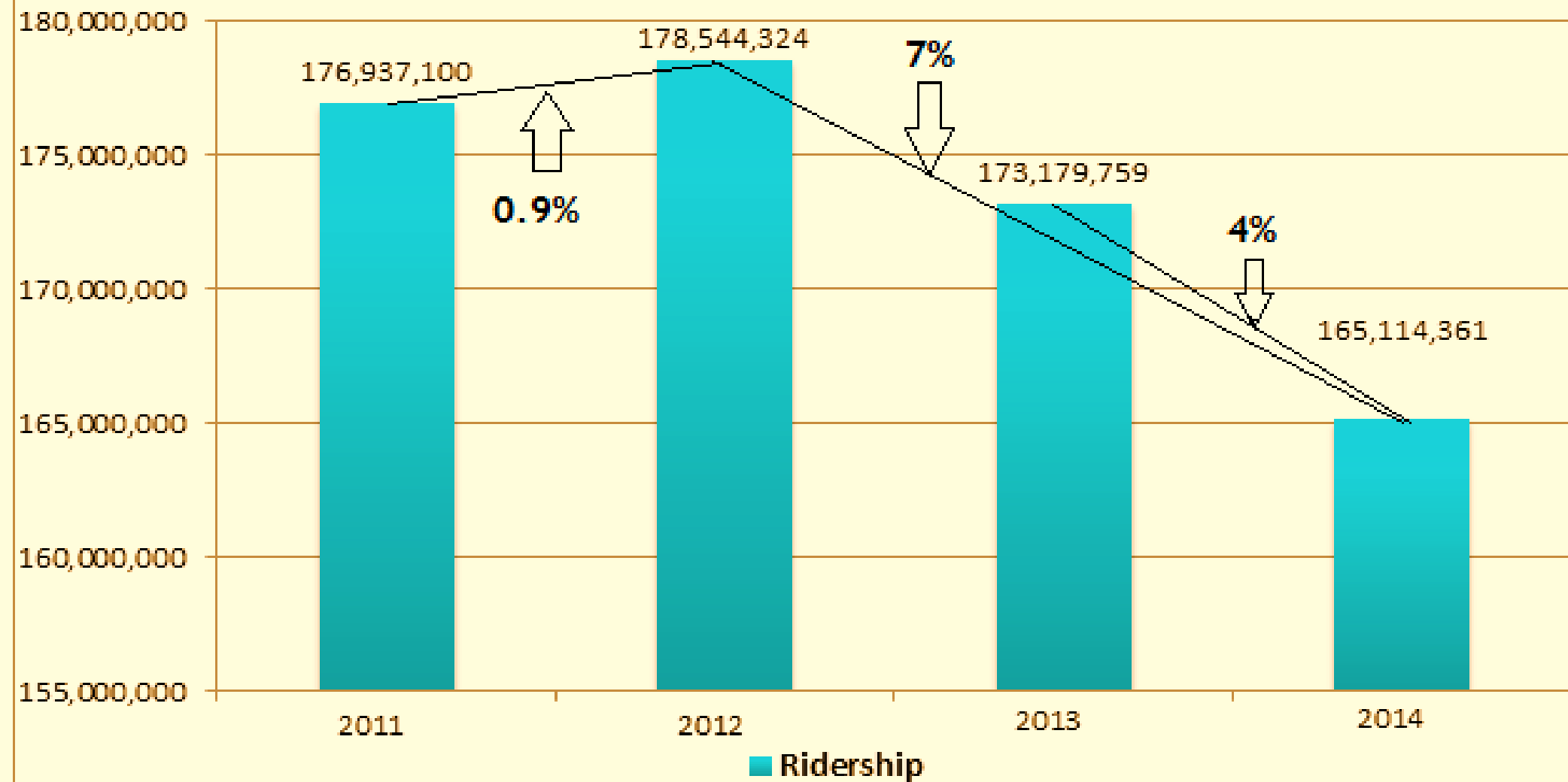
Column	Number Of Distinct Values
dropoff_datetime	27228113
passenger_count	13
payment_type	5
pickup_datetime	27210469
rate_code	26
store_and_fwd_flag	3
Trip_time	15137
TripFareID	173179759
vendor_id	2

Frequent Value Distribution (0.1000 %) - rate\_code

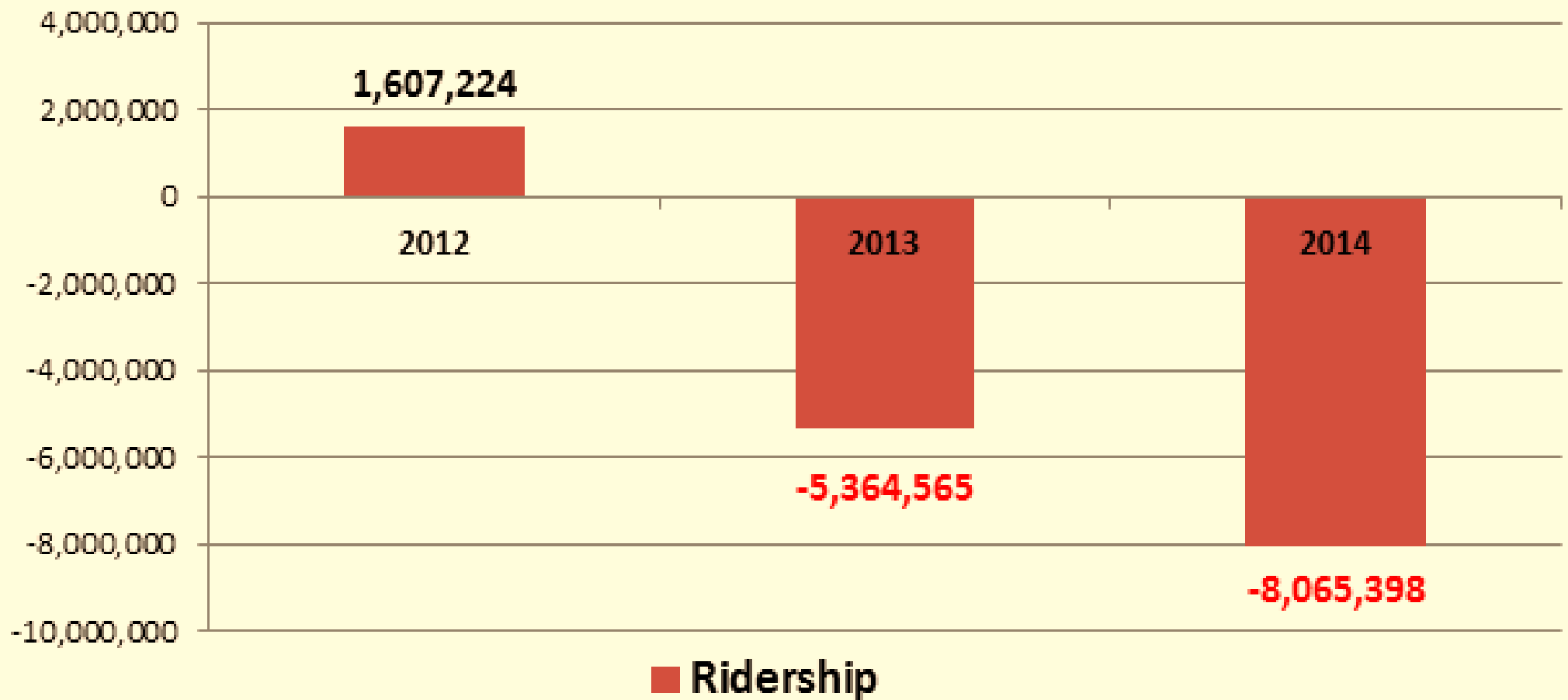
Value	Count	Percentage
1	169249787	97.7307 %
2	3040046	1.7554 %
3	259043	0.1496 %
5	475336	0.2745 %

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
		ToatlNoof Tripsperday	TotalTripT imePerTri pperDay	AVETript imepertr ipperday	Maxtripti mepertri pperday	MinTriptT imePertr ipperday	TotalTripDis tanceTravell edbYalltrips	Averagedail yTripDistan ce	MAXDayTripDista nce	FareAmountTotal	FareAmo untAVEp er trip	FareAmountMAXper trip	FareAmou ntMIN	MtaTAXTotal
1	Day in 20013													
2	Tuesday, January 01, 2013	473804	304179345	641	1814833	0	1302114.28	2.74821293	100	\$5,358,756.48	\$11.31	\$500.00	\$2.50	\$236,118.00
3	Wednesday, January 02, 2013	403667	257591716	638	605722	0	1240109.06	3.07210909	99.9	\$4,853,395.48	\$12.02	\$400.00	\$2.50	\$201,052.00
4	Thursday, January 03, 2013	407363	271289137	665	1209700	0	1154847.9	2.83493567	96.76	\$4,749,010.05	\$11.66	\$450.00	\$2.50	\$203,054.50
5	Friday, January 04, 2013	441778	300885778	681	1814685	0	1189162.8	2.69176555	97.3	\$5,056,443.06	\$11.45	\$300.00	\$2.50	\$220,245.00
6	Saturday, January 05, 2013	442541	289898530	655	41225	0	1346486.53	3.0426255	95.85	\$5,355,382.68	\$12.10	\$460.00	\$2.50	\$220,515.00
7	Sunday, January 06, 2013	443650	295492537	666	39436	0	1243794.21	2.80354831	88	\$5,169,601.24	\$11.65	\$500.00	\$2.50	\$221,176.50
8	Monday, January 07, 2013	496899	343103747	690	183654	0	1327056.25	2.67067603	99.2	\$5,703,349.14	\$11.48	\$479.40	\$2.50	\$247,750.00
9	Tuesday, January 08, 2013	500065	359481311	718	61204	0	1352979.14	2.70560655	88.1	\$5,857,286.93	\$11.71	\$450.00	\$2.50	\$249,166.00
10	Wednesday, January 09, 2013	384614	236365675	614	51655	0	1161356.83	3.01953863	98.9	\$4,553,907.69	\$11.84	\$332.00	\$2.50	\$191,655.50
11	Thursday, January 10, 2013	496005	337806523	681	39707	0	1320121.17	2.66150779	97.8	\$5,668,792.75	\$11.43	\$300.00	\$2.50	\$247,340.00
12	Friday, January 11, 2013	520520	359702638	691	91025	-8	1347262.16	2.58830047	96.6	\$5,909,504.71	\$11.35	\$400.45	\$2.50	\$259,475.50
13	Saturday, January 12, 2013	533039	370660329	695	55426	-7	1408314.56	2.64204788	99	\$6,123,009.45	\$11.49	\$450.00	\$2.50	\$265,700.00
14	Sunday, January 13, 2013	537188	401431220	747	64066	-29589	1422289.17	2.64765626	99.8	\$6,317,264.79	\$11.76	\$476.66	\$2.50	\$267,818.00
15	Monday, January 14, 2013	482378	346502088	718	72869	-1	1293424.38	2.68135027	83.5	\$5,639,803.49	\$11.69	\$400.00	\$2.50	\$240,425.00
16	Tuesday, January 15, 2013	531161	388417339	731	51938	-19	1444646.08	2.71978944	97.7	\$6,286,504.21	\$11.84	\$366.00	\$2.50	\$264,686.00
17	Wednesday, January 16, 2013	412630	275706868	668	108920	0	1381466.28	3.34795405	100	\$5,301,831.68	\$12.85	\$500.00	\$2.50	\$205,086.00
18	Thursday, January 17, 2013	393001	264156497	672	37062	0	1181597.6	3.00660202	100	\$4,711,214.52	\$11.99	\$500.00	\$2.50	\$195,618.50
19	Friday, January 18, 2013	441233	301938473	684	1816164	-1	1222908.12	2.77156994	98	\$5,092,998.12	\$11.54	\$500.00	\$2.50	\$219,842.50
20	Saturday, January 19, 2013	478437	318938168	666	605319	0	1272829.6	2.66039123	96.3	\$5,391,994.59	\$11.27	\$355.00	\$2.50	\$238,519.00
21	Sunday, January 20, 2013	457471	312330711	682	59758	0	1229578.29	2.68777319	98.9	\$5,263,068.16	\$11.50	\$500.00	\$2.50	\$228,003.00
22	Monday, January 21, 2013	487949	348561744	714	71142	-2	1334169.64	2.73423993	94.2	\$5,738,784.35	\$11.76	\$475.00	\$2.50	\$243,205.00
23	Tuesday, January 22, 2013	521398	382158188	732	41891	0	1385618.7	2.65750674	94.6	\$6,081,319.33	\$11.66	\$350.00	\$2.50	\$259,937.00
24	Wednesday, January 23, 2013	507429	335044918	660	38172	0	1371675.62	2.70318728	99.6	\$5,768,389.67	\$11.37	\$445.00	\$2.50	\$253,077.50
25	Thursday, January 24, 2013	512533	366492745	715	45626	0	1424321.28	2.77898453	96.8	\$6,093,594.72	\$11.89	\$470.00	\$2.50	\$255,341.50
26	Friday, January 25, 2013	543734	396740099	729	42324	-7	1485524.81	2.73208004	96.4	\$6,448,413.59	\$11.86	\$448.84	\$2.50	\$270,985.50
27	Saturday, January 26, 2013	510530	335923471	657	30327	0	1390203.4	2.72305917	78.4	\$5,841,459.92	\$11.44	\$317.00	\$2.50	\$254,544.00
28	Sunday, January 27, 2013	459393	290349256	632	60750	0	1328804.7	2.89252274	69.3	\$5,356,449.95	\$11.66	\$500.00	\$2.50	\$228,937.00
29	Monday, January 28, 2013	557203	374236073	671	23114	0	1468849.03	2.63611113	83.6	\$6,269,035.81	\$11.25	\$330.00	\$2.50	\$277,933.50
30	Tuesday, January 29, 2013	470833	315066367	669	39761	-16	1409112.81	2.99280809	100	\$5,670,524.27	\$12.04	\$468.50	\$2.50	\$234,619.00
31	Wednesday, January 30, 2013	450789	312653952	693	56553	-9	1239101.8	2.7487401	100	\$5,227,490.07	\$11.60	\$500.00	\$2.50	\$224,746.50
32	Thursday, January 31, 2013	477390	327169789	706	72267	0	1265914.46	2.65178619	95.7	\$5,506,575.66	\$11.52	\$350.00	\$2.50	\$239,049.00

## Total Taxi Ridership 2011-2014

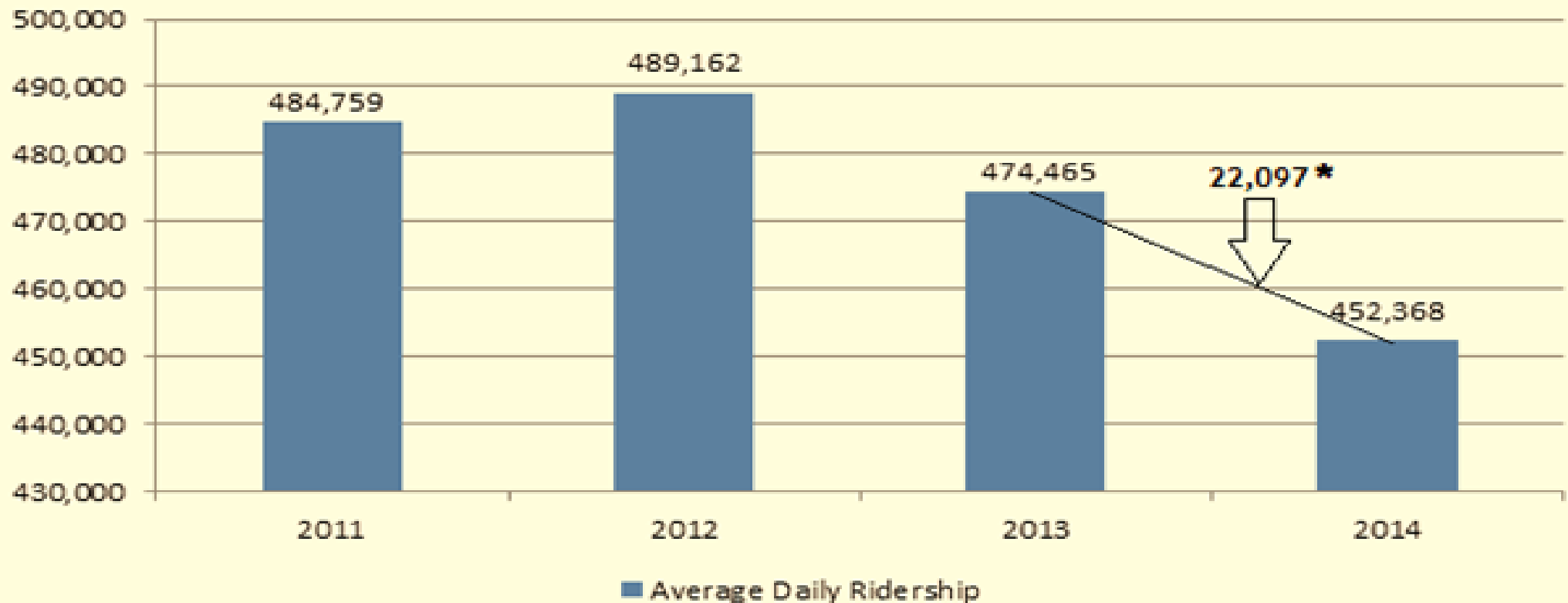


## Yearly Ridership Change 2011-2014





## Average Daily Ridership 2011-2014

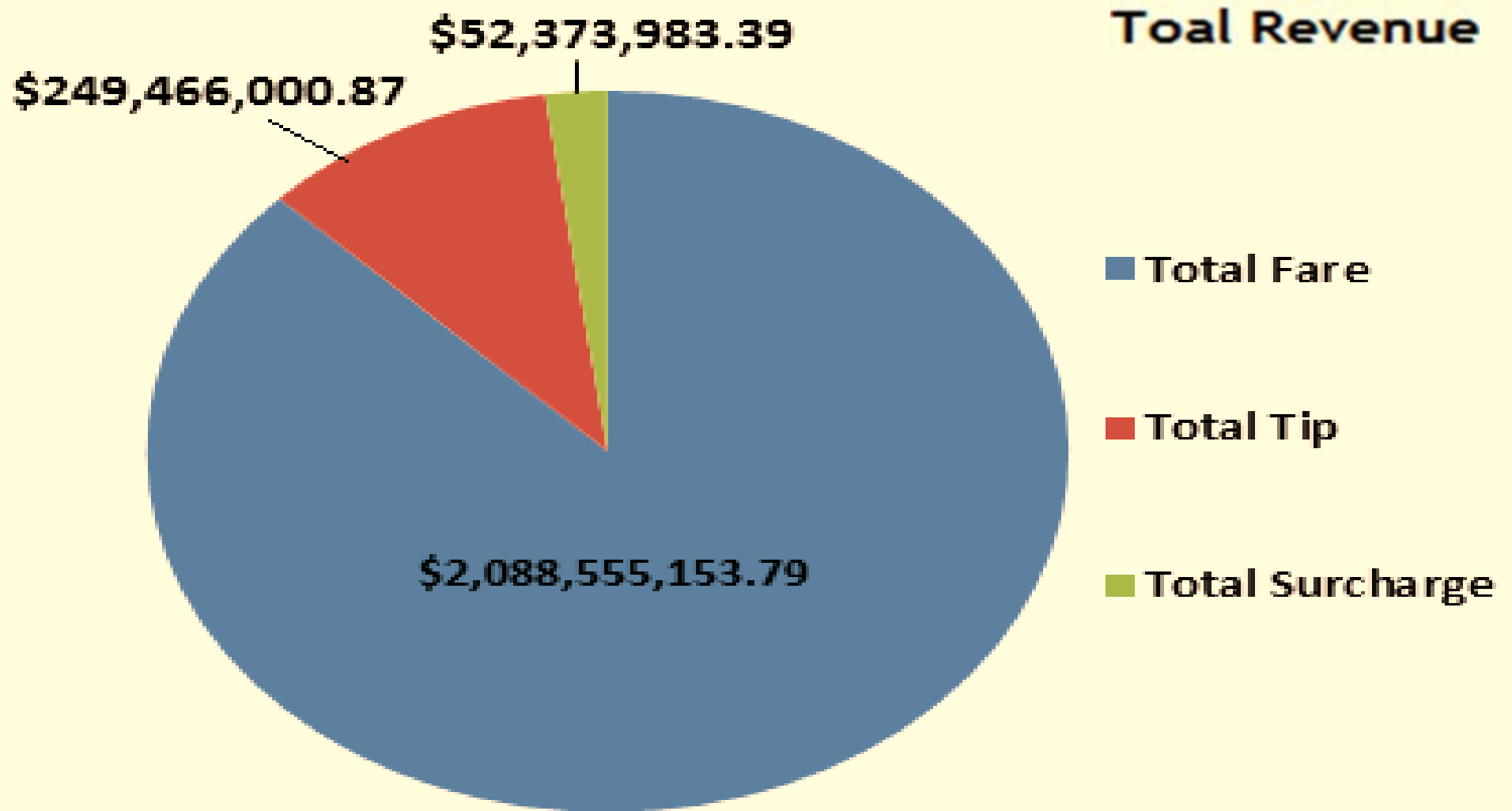


**\*22,097 daily rides lost (2013-2014)**

**\$319,964 revenue lost (22,097 rides X \$14.48 avg. fare)**

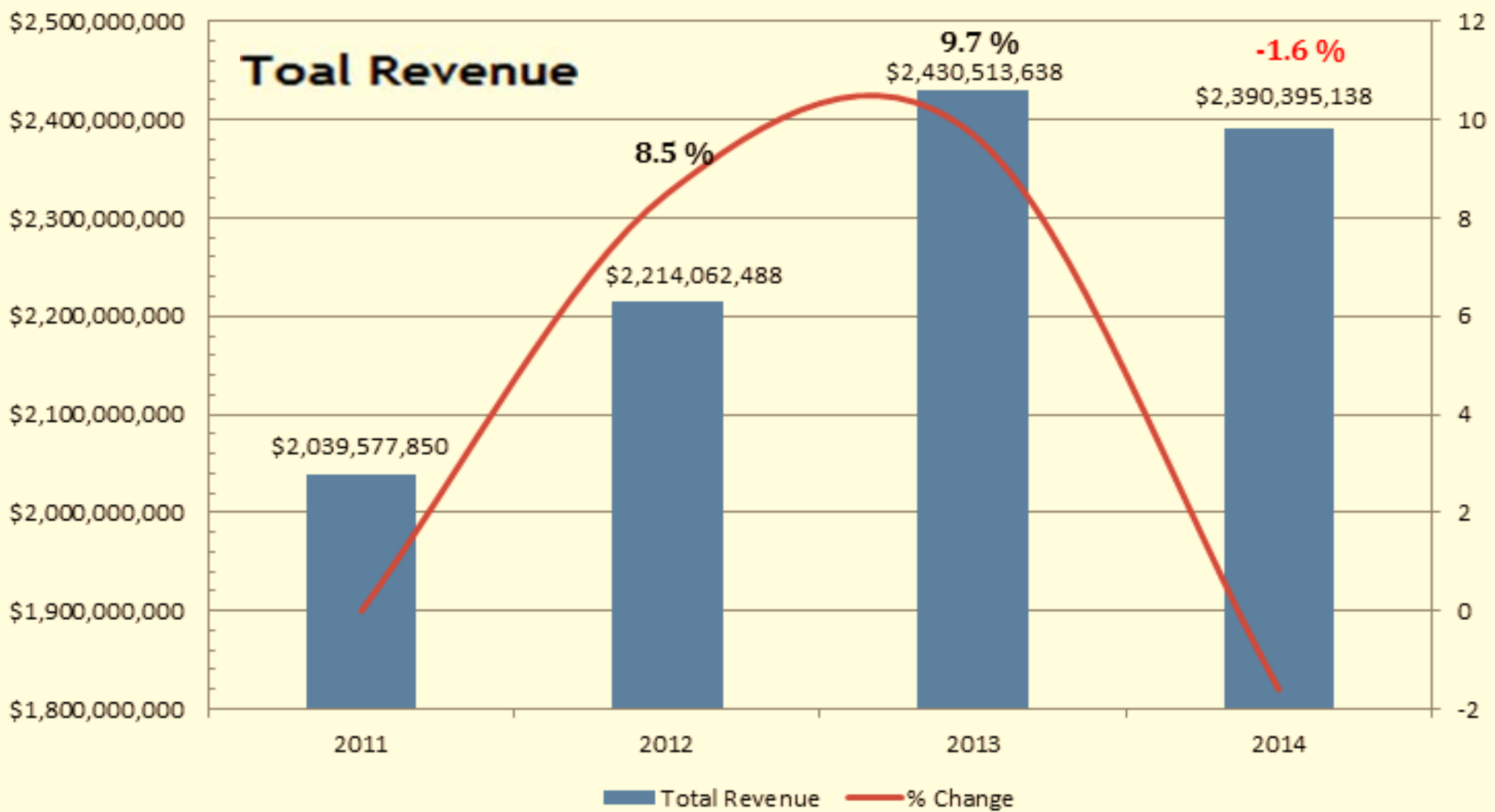
**\$23.46 per medallion taxi (\$319,964 revenue/13,637 taxis)**

**Less than 2 rides per taxi**

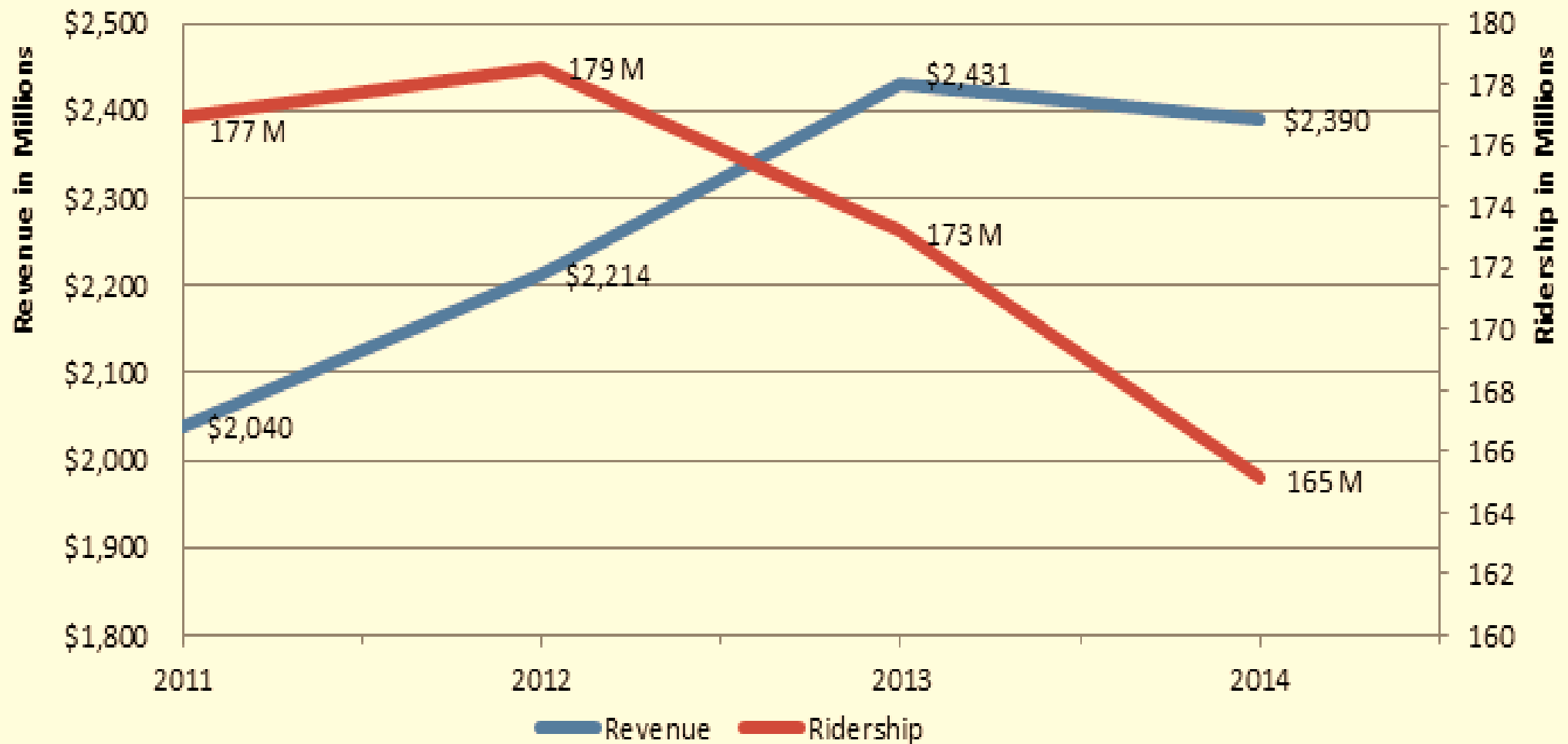


**2014 Toal Revenue - \$2,390,395,138.05**

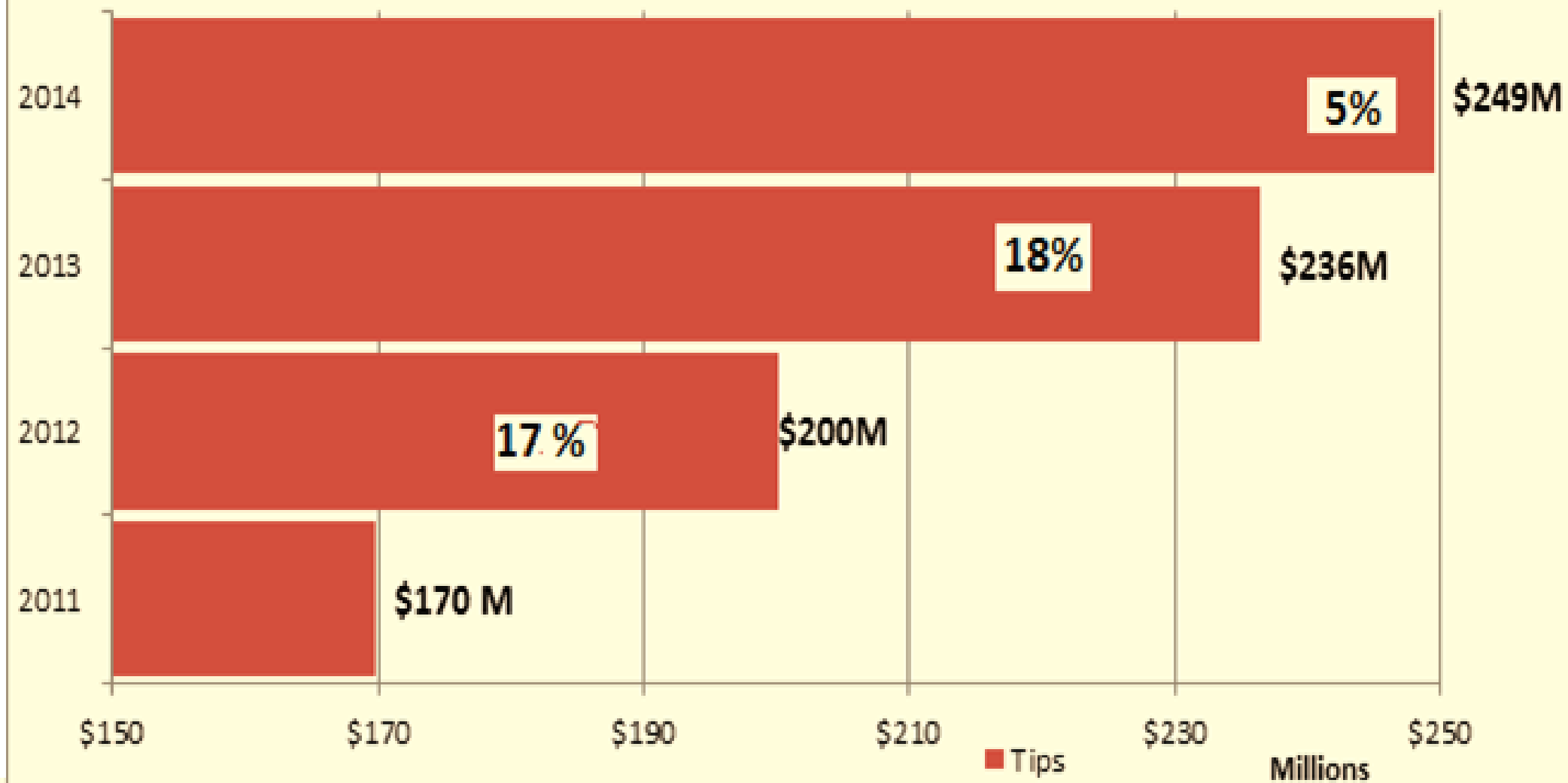
## Toal Revenue



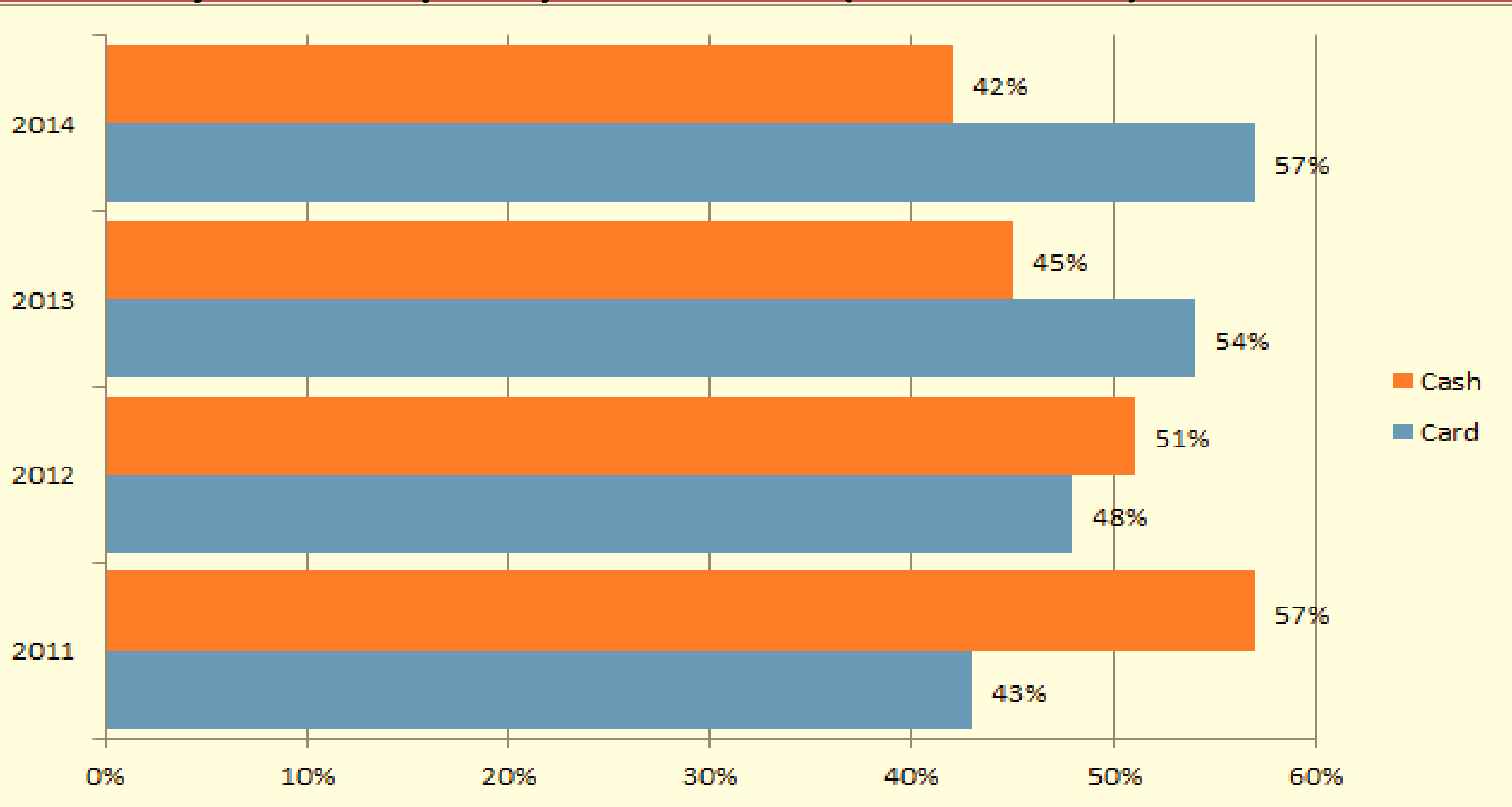
## Taxi Ridership & Revenue 2011-2014



## Total Tips 2011-2014

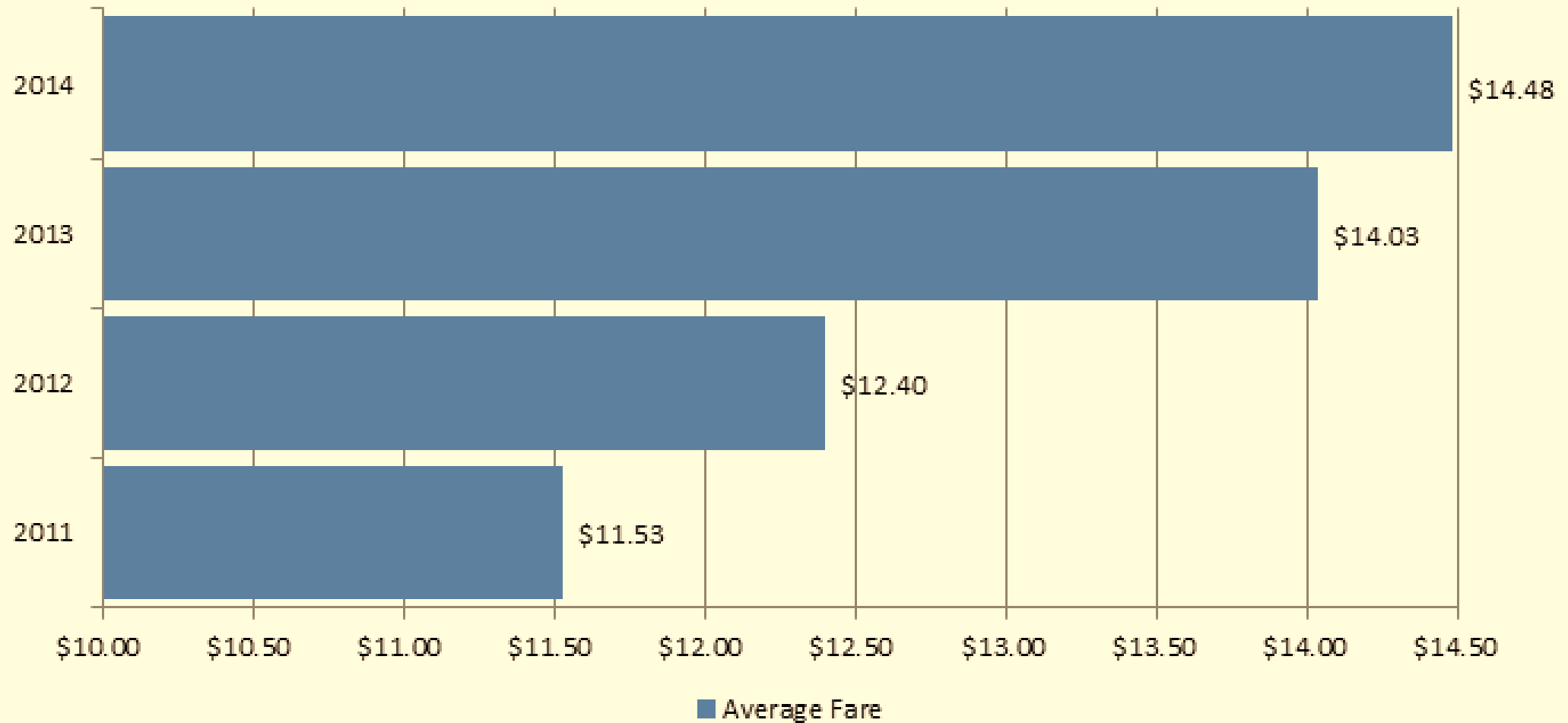


## Payment Frequency Distribution (Cash Vs Card) 2011-2014

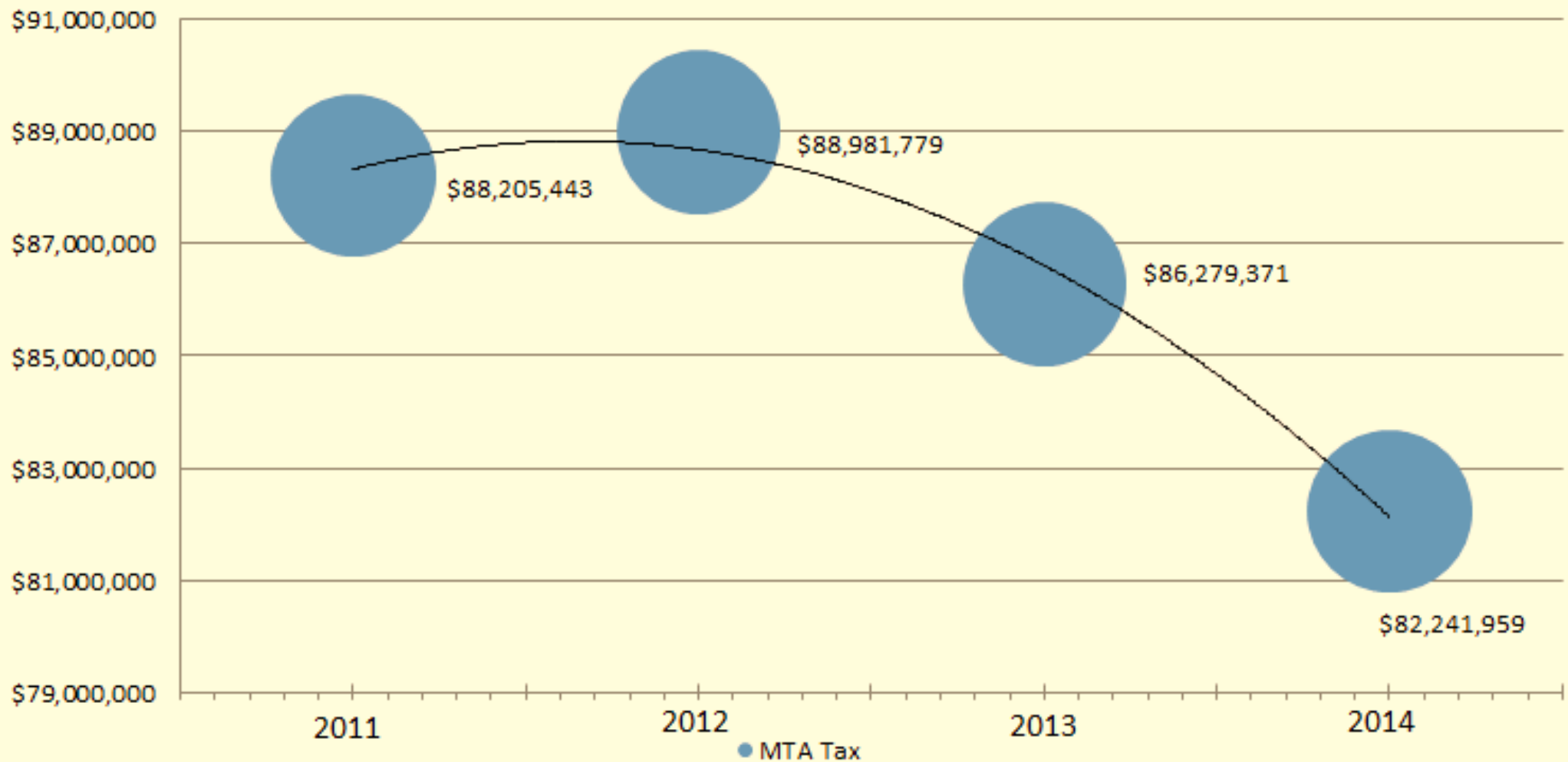




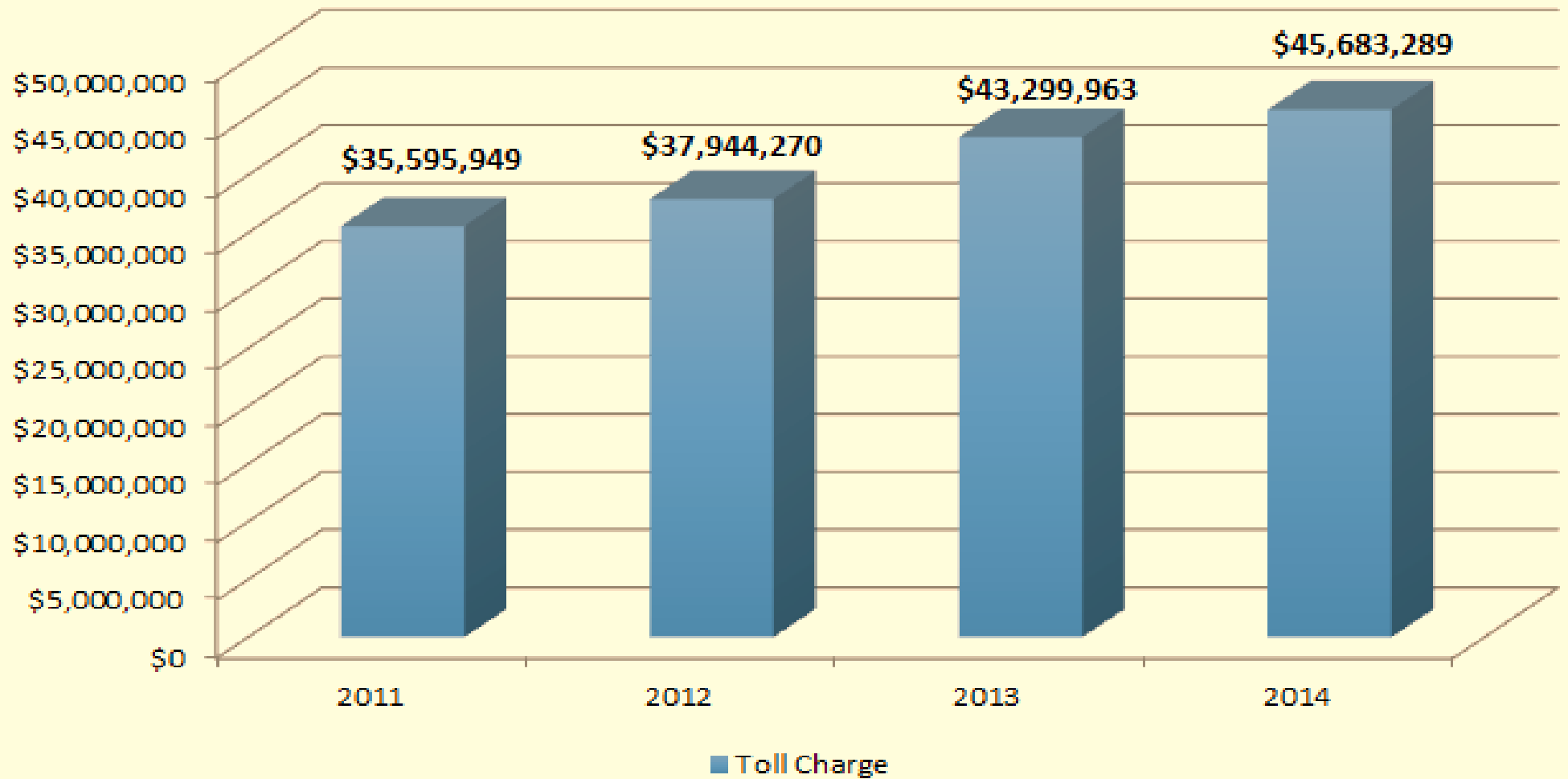
## Average Fare 2011-2014



## Total MTA Tax 2011-2014



## Toll Charge 2011-2014



## T-PEP DATA 2011-2014

- The result of our analysis indicates that, even with a backdrop of relentless media reports that attempt to create a narrative that incorrectly portrays the current state of the NYC taxi market as being at the precipice of its demise, the 2014 T-PEP data show a very nominal decline across all the data points & an increase in some.

## T-PEP DATA 2011-2014

- Ridership down by 4%
- Revenue is down by 1.6% - which translates to \$23.46 in daily revenue, and less than 2 rides per day.
- Average fare in 2014 is \$14.48 - up by 3%
- Tip is up by 5% - significant for customer service and driver income

