

In [5]:

```
import numpy as np
import pandas as pd
from pandas import Series, DataFrame

import matplotlib.pyplot as pp
import matplotlib.pyplot as plt
import seaborn as sb
from pylab import rcParams
import datetime as DT
```

In [6]:

```
%matplotlib inline
rcParams ['figure.figsize']=15,8
sb.set_style('whitegrid')
import chardet
```

In [7]:

```
data= pd.read_csv("nypd_mv_collisions")
```

In [93]:

data

Out[93]:

	borough	contributing_factor_vehicle_1	contributing_factor_vehicle_2	contributing_factor_vehicle_3
0	NaN	Unspecified	Unspecified	NaN
1	BROOKLYN	Unspecified	Unspecified	NaN
2	NaN	Driver Inattention/Distraction	Unspecified	NaN
3	BROOKLYN	Unspecified	Unspecified	NaN

In [9]:

```
data.columns
```

Out[9]:

```
Index(['borough', 'contributing_factor_vehicle_1',
      'contributing_factor_vehicle_2', 'contributing_factor_vehicle_3',
      'contributing_factor_vehicle_4', 'contributing_factor_vehicle_5',
      'cross_street_name', 'timestamp', 'latitude', 'longitude', 'location',
      'number_of_cyclist_injured', 'number_of_cyclist_killed',
      'number_of_motorist_injured', 'number_of_motorist_killed',
      'number_of_pedestrians_injured', 'number_of_pedestrians_killed',
      'number_of_persons_injured', 'number_of_persons_killed',
      'off_street_name', 'on_street_name', 'unique_key', 'vehicle_type_code1',
      'vehicle_type_code2', 'vehicle_type_code_3', 'vehicle_type_code_4',
      'vehicle_type_code_5', 'zip_code'],
      dtype='object')
```

In [10]:

```
brooklyndata= data.loc[data['borough']=='BROOKLYN']
```

In [11]:

```
brooklyndata
```

Out[11]:

	borough	contributing_factor_vehicle_1	contributing_factor_vehicle_2	contributing_factor_vehicle_3	contributing_factor_vehicle_4
1	BROOKLYN	Unspecified	Unspecified	NaN	NaN
3	BROOKLYN	Unspecified	Unspecified	NaN	NaN
4	BROOKLYN	Unspecified	NaN	NaN	NaN
7	BROOKLYN	Unspecified	NaN	NaN	NaN

In [12]:

```
brooklyndata.groupby('contributing_factor_vehicle_1')['number_of_persons_injured'].r
```

Out[12]:

contributing_factor_vehicle_1	
Accelerator Defective	0.436364
Aggressive Driving/Road Rage	0.427793
Alcohol Involvement	0.447368
Animals Action	0.350000
Backing Unsafely	0.113574
Brakes Defective	0.492754
Cell Phone (hand-held)	0.257143
Cell Phone (hands-free)	0.288462
Driver Inattention/Distracted	0.296007
Driver Inexperience	0.269063
Driverless/Runaway Vehicle	0.108696
Drugs (Illegal)	0.447368
Failure to Keep Right	0.345882
Failure to Yield Right-of-Way	0.470703
Fatigued/Drowsy	0.270908
Fell Asleep	0.335878
Following Too Closely	0.322687
Glare	0.612150
Headlights Defective	0.450000
Illness	0.400000
Lane Marking Improper/Inadequate	0.333333
Lost Consciousness	0.133761
Obstruction/Debris	0.128527
Other Electronic Device	0.281553
Other Lighting Defects	0.380952
Other Vehicular	0.232079
Outside Car Distraction	0.238994
Oversized Vehicle	0.065946
Passenger Distraction	0.722513
Passing or Lane Usage Improper	0.160116
Pavement Defective	0.307377
Pavement Slippery	0.289280
Pedestrian/Bicyclist/Other Pedestrian Error/Confusion	0.761236
Physical Disability	0.672323
Prescription Medication	0.234284
Reaction to Other Uninvolved Vehicle	0.213604
Shoulders Defective/Improper	0.250000
Steering Failure	0.219731
Tire Failure/Inadequate	0.216667
Tow Hitch Defective	0.045455
Traffic Control Device Improper/Non-Working	0.700000
Traffic Control Disregarded	0.601558
Turning Improperly	0.175635
Unsafe Lane Changing	0.195676
Unsafe Speed	0.547927
Unspecified	0.279855

View Obstructed/Limited0.385855

Windshield Inadequate0.000000

Name: number_of_persons_injured, dtype: float64

In [13]:

```
num_accidents_no_kill = len(brooklyndata.loc[brooklyndata['number_of_persons_killed
```

In [14]:

```
num_accidents_with_kill= len(brooklyndata.loc[brooklyndata['number_of_persons_killed
brooklyn_accidents_with_kill = brooklyndata.loc[brooklyndata['number_of_persons_kill
```

In [15]:

```
num_accidents_with_kill
```

Out[15]:

280

In [16]:

```
brooklyn_accidents_with_kill
```

Out[16]:

	borough	contributing_factor_vehicle_1	contributing_factor_vehicle_2	contributing_factor_vehicle_3	c
1277	BROOKLYN	Passenger Distraction	Unspecified	NaN	
5785	BROOKLYN	Unspecified	Unspecified	NaN	
12354	BROOKLYN	Unspecified	NaN	NaN	
16342	BROOKLYN	Traffic Control Disregarded	Unspecified	NaN	

In [17]:

```
brooklyn_accidents_with_kill_1=brooklyn_accidents_with_kill['contributing_factor_vehicle_1']
```

In [18]:

```
brooklyn_accidents_with_kill_1.value_counts()
```

Out[18]:

Unspecified	125
Driver Inattention/Distracted	33
Traffic Control Disregarded	32
Failure to Yield Right-of-Way	29
Passenger Distraction	11
Physical Disability	9
Alcohol Involvement	7
Backing Unsafely	7
View Obstructed/Limited	5
Unsafe Speed	5
Prescription Medication	4
Following Too Closely	3
Lost Consciousness	2
Glare	2
Pedestrian/Bicyclist/Other Pedestrian Error/Confusion	1
Driver Inexperience	1
Other Vehicular	1
Passing or Lane Usage Improper	1

Name: contributing_factor_vehicle_1, dtype: int64

In [19]:

```
brooklyn_accidents_with_kill_1.value_counts().plot(kind='bar')
```

Out[19]:

<matplotlib.axes._subplots.AxesSubplot at 0x1256555f8>



In [20]:

```
brooklyn_accidents=brooklyndata['contributing_factor_vehicle_1'].value_counts()
```

In [21]:

```
brooklyn_accidents
```

Out[21]:

Unspecified	139204
Driver Inattention/Distraction	26398
Failure to Yield Right-of-Way	12800
Fatigued/Drowsy	7844
Backing Unsafely	7713
Lost Consciousness	4994
Other Vehicular	4464
Prescription Medication	3786
Turning Improperly	3661
Traffic Control Disregarded	3210
Driver Inexperience	2754
Following Too Closely	2724
Physical Disability	2652
Pavement Slippery	2043
Outside Car Distraction	1908
Alcohol Involvement	1900
Oversized Vehicle	1850
Passing or Lane Usage Improper	1730
Passenger Distraction	1337

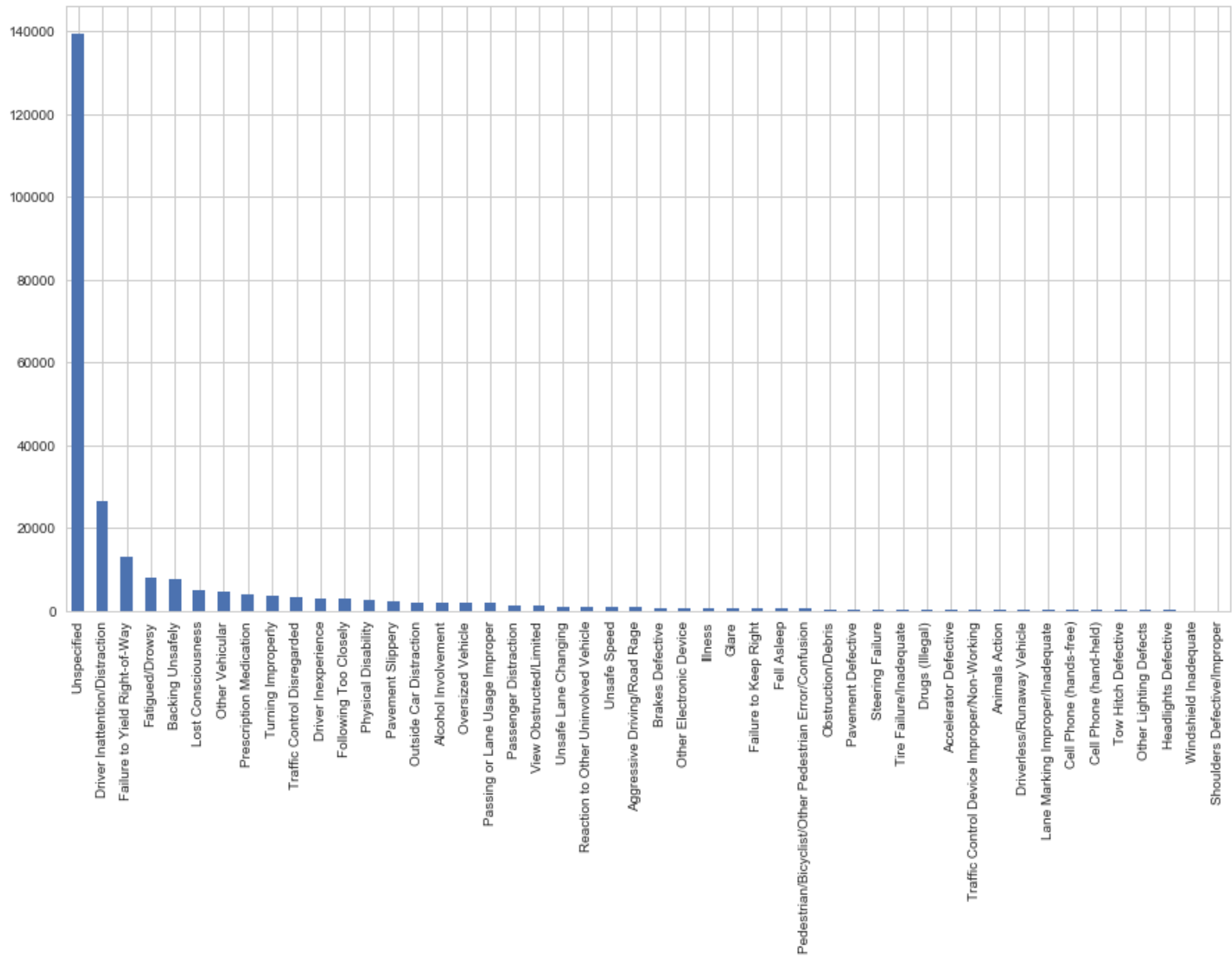
View Obstructed/Limited	1117
Unsafe Lane Changing	925
Reaction to Other Uninvolved Vehicle	838
Unsafe Speed	772
Aggressive Driving/Road Rage	734
Brakes Defective	621
Other Electronic Device	515
Illness	480
Glare	428
Failure to Keep Right	425
Fell Asleep	393
Pedestrian/Bicyclist/Other Pedestrian Error/Confusion	356
Obstruction/Debris	319
Pavement Defective	244
Steering Failure	223
Tire Failure/Inadequate	120
Drugs (Illegal)	114
Accelerator Defective	110
Traffic Control Device Improper/Non-Working	100
Animals Action	100
Driverless/Runaway Vehicle	92
Lane Marking Improper/Inadequate	54
Cell Phone (hands-free)	52
Cell Phone (hand-held)	35
Tow Hitch Defective	22
Other Lighting Defects	21
Headlights Defective	20
Windshield Inadequate	14
Shoulders Defective/Improper	4
Name: contributing_factor_vehicle_1, dtype: int64	

In [22]:

```
brooklyn_accidents.plot(kind='bar')
```

Out[22]:

<matplotlib.axes._subplots.AxesSubplot at 0x116531da0>



In [23]:

```
drop_Unspecified=brooklyndata.loc[brooklyndata['contributing_factor_vehicle_1']!='Unspecified']
```


In [24]:

```
drop_Unspecified
```

Out[24]:

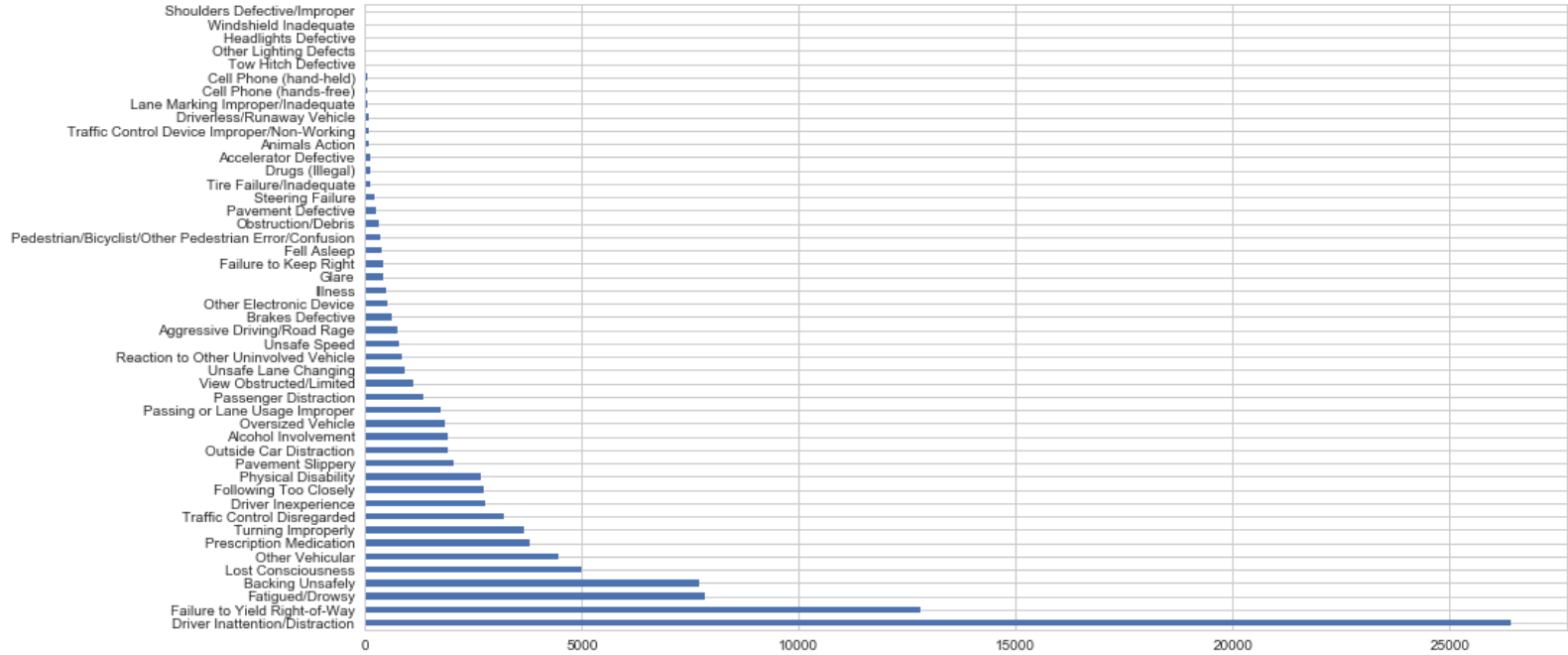
	borough	contributing_factor_vehicle_1	contributing_factor_vehicle_2	contributing_factor_vehicle_3	c
9	BROOKLYN	Driver Inattention/Distracted	Unspecified	Unspecified	
35	BROOKLYN	Driver Inattention/Distracted	Unspecified	NaN	
39	BROOKLYN	Oversized Vehicle	Unspecified	NaN	
47	BROOKLYN	Driver Inexperience	Unspecified	NaN	

In [25]:

```
factor_counts_no_Unspecified=drop_Unspecified['contributing_factor_vehicle_1'].value
factor_counts_no_Unspecified.plot(kind='barh')
```

Out[25]:

<matplotlib.axes._subplots.AxesSubplot at 0x116a70c50>



In [26]:

```
factor_counts_no_Unspecified
```

Out[26]:

Driver Inattention/Distraction	26398
Failure to Yield Right-of-Way	12800
Fatigued/Drowsy	7844
Backing Unsafely	7713
Lost Consciousness	4994
Other Vehicular	4464
Prescription Medication	3786
Turning Improperly	3661
Traffic Control Disregarded	3210
Driver Inexperience	2754
Following Too Closely	2724
Physical Disability	2652
Pavement Slippery	2043
Outside Car Distraction	1908
Alcohol Involvement	1900
Oversized Vehicle	1850
Passing or Lane Usage Improper	1730
Passenger Distraction	1337
View Obstructed/Limited	1117
Unsafe Lane Changing	925
Reaction to Other Uninvolved Vehicle	838
Unsafe Speed	772
Aggressive Driving/Road Rage	734
Brakes Defective	621
Other Electronic Device	515
Illness	480
Glare	428
Failure to Keep Right	425
Fell Asleep	393
Pedestrian/Bicyclist/Other Pedestrian Error/Confusion	356
Obstruction/Debris	319
Pavement Defective	244
Steering Failure	223
Tire Failure/Inadequate	120
Drugs (Illegal)	114
Accelerator Defective	110
Animals Action	100
Traffic Control Device Improper/Non-Working	100
Driverless/Runaway Vehicle	92
Lane Marking Improper/Inadequate	54
Cell Phone (hands-free)	52
Cell Phone (hand-held)	35
Tow Hitch Defective	22
Other Lighting Defects	21
Headlights Defective	20
Windshield Inadequate	14
Shoulders Defective/Improper	4

Name: contributing_factor_vehicle_1, dtype: int64

In [27]:

```
#cause_of_street_accident=  
drop_Unspecified_on_street=brooklyndata[pd.notnull(brooklyndata['on_street_name'])]
```

In [28]:

```
drop_Unspecified_2=drop_Unspecified_on_street.loc[drop_Unspecified_on_street['contr:]]
```

In [29]:

```
drop_Unspecified_on_street['on_street_name']
```

Out[29]:

```
1          EMPIRE BOULEVARD  
3          WILSON AVENUE  
4          EAST 17 STREET  
7          DREW STREET  
9          NEPTUNE AVENUE  
11         FLATLANDS 2 STREET  
18         EAST NEW YORK AVENUE  
31         WINTHROP STREET  
35         EAST 29 STREET  
37         PENNSYLVANIA AVENUE  
39         STATE STREET  
43         WEIRFIELD STREET  
45         LINDEN STREET  
47         ROEBLING STREET  
52         74 STREET  
54         PENNSYLVANIA AVENUE  
60         LINDEN BOULEVARD  
64         VAN SINDEREN AVENUE  
66         WHITNEY AVENUE  
68         MC DONALD AVENUE  
69         ATLANTIC AVENUE  
76         50 STREET  
83         ATLANTIC AVENUE  
84         PARKSIDE AVENUE  
86         BAY PARKWAY  
87         77 STREET  
104        FLATLANDS AVENUE  
106        8 AVENUE  
116        50 STREET  
119        PROSPECT PLACE  
  
...  
1089145    CONEY ISLAND AVENUE  
1089146    FLATLANDS AVENUE  
1089147    EASTERN PARKWAY
```

```
1089154          HOYT STREET
1089156      GREENPOINT AVENUE
1089158              3 AVENUE
1089161          HERKIMER STREET
1089162          EASTERN PARKWAY
1089168          THROOP AVENUE
1089169      WASHINGTON AVENUE
1089170          OCEAN AVENUE
1089171          NOSTRAND AVENUE
1089172          CLARKSON AVENUE
1089177          KINGS HIGHWAY
1089179          PARADE PLACE
1089190  PROSPECT PARK SOUTHWEST
1089192          AVENUE P
1089193          SMITH STREET
1089201          EMMONS AVENUE
1089211      PENNSYLVANIA AVENUE
1089220          LENOX ROAD
1089229          FARRAGUT ROAD
1089236              4 AVENUE
1089238          QUENTIN ROAD
1089242          LEGION STREET
1089243          SAINT JOHNS PLACE
1089246          RALPH AVENUE
1089249          CATON AVENUE
1089257          EAST 3 STREET
1089264          ROCKAWAY AVENUE
```

```
Name: on_street_name, Length: 220984, dtype: object
```

```
In [30]:
```

```
street_with_highest_accident=drop_Unspecified_2['on_street_name'].value_counts()
top_ten_streets = street_with_highest_accident[:10]
top_ten_streets.index
```

```
Out[30]:
```

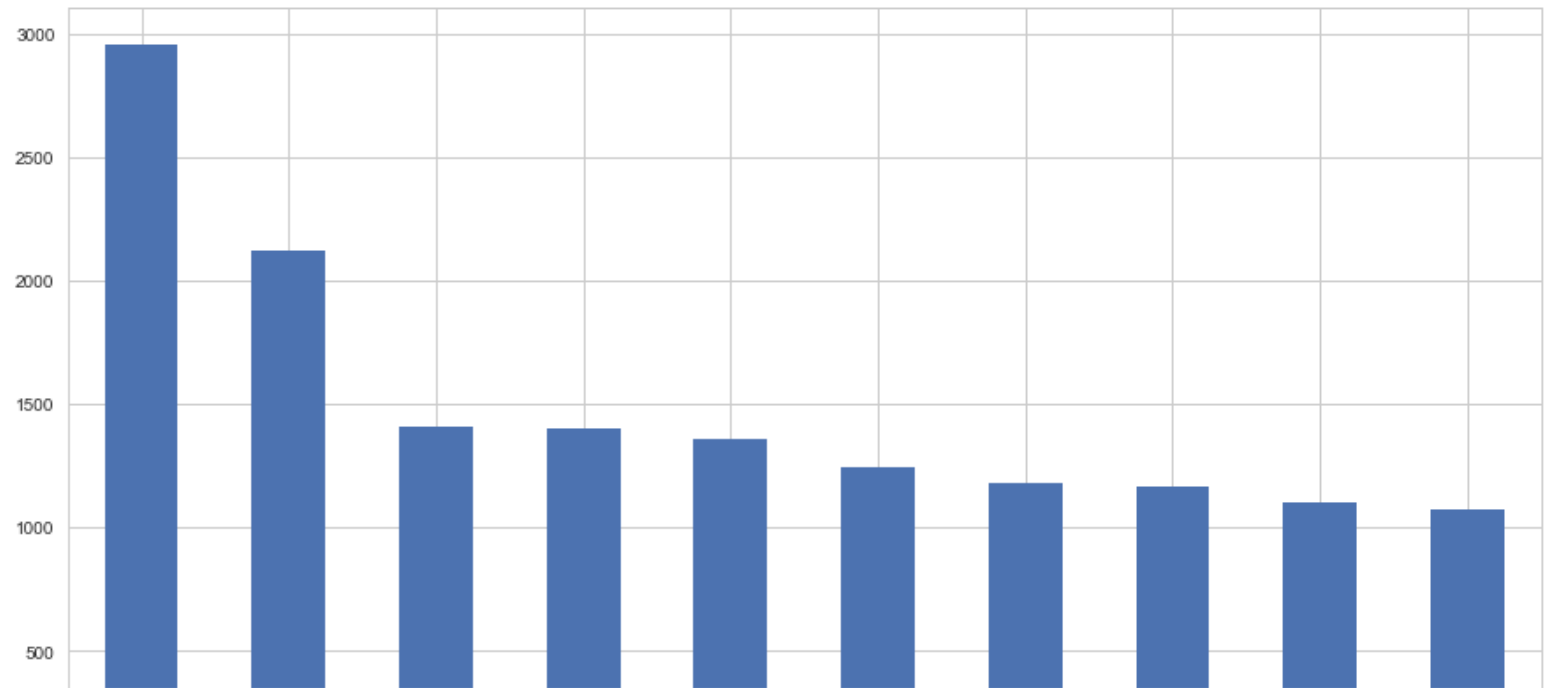
```
Index(['ATLANTIC AVENUE', 'FLATBUSH AVENUE', 'BEDFORD AVENUE', 'OCEAN
PARKWAY',
      'NOSTRAND AVENUE', 'CONEY ISLAND AVENUE', '3 AVENUE', 'UTICA AV
ENUE',
      '4 AVENUE', 'EASTERN PARKWAY'],
      dtype='object')
```

In [177]:

```
top_ten_streets.plot(kind='bar')
```

Out[177]:

<matplotlib.axes._subplots.AxesSubplot at 0x12cf8ea90>



In [32]:

```
top_ten_street_df = drop_Unspecified_2.loc[drop_Unspecified_2['on_street_name'].isin(top_ten_streets)]
top_ten_street_df.groupby('on_street_name')['contributing_factor_vehicle_1'].value_counts()
```

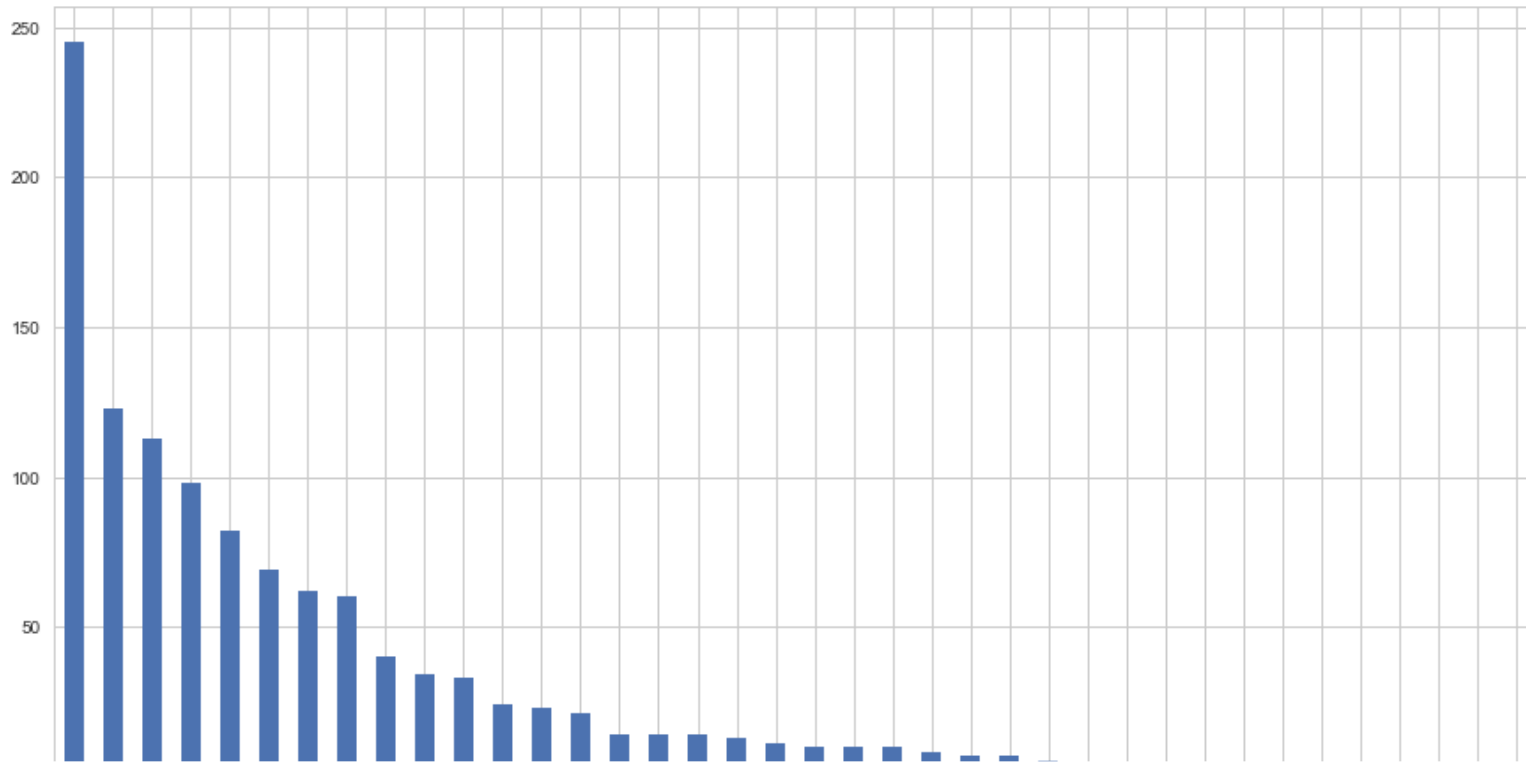
Out[32]:

on_street_name	contributing_factor_vehicle_1
3 AVENUE	Driver Inattention/Distracted
245	Failure to Yield Right-of-Way
123	Fatigued/Drowsy
113	Prescription Medication
98	Turning Improperly
82	Lost Consciousness
69	Backing Unsafely
62	Physical Disability
60	Other Vehicular

In [33]:

```
for title,group in top_ten_street_df.groupby('on_street_name'):
    print(title)
    group['contributing_factor_vehicle_1'].value_counts().plot(kind='bar')
    plt.show()
```

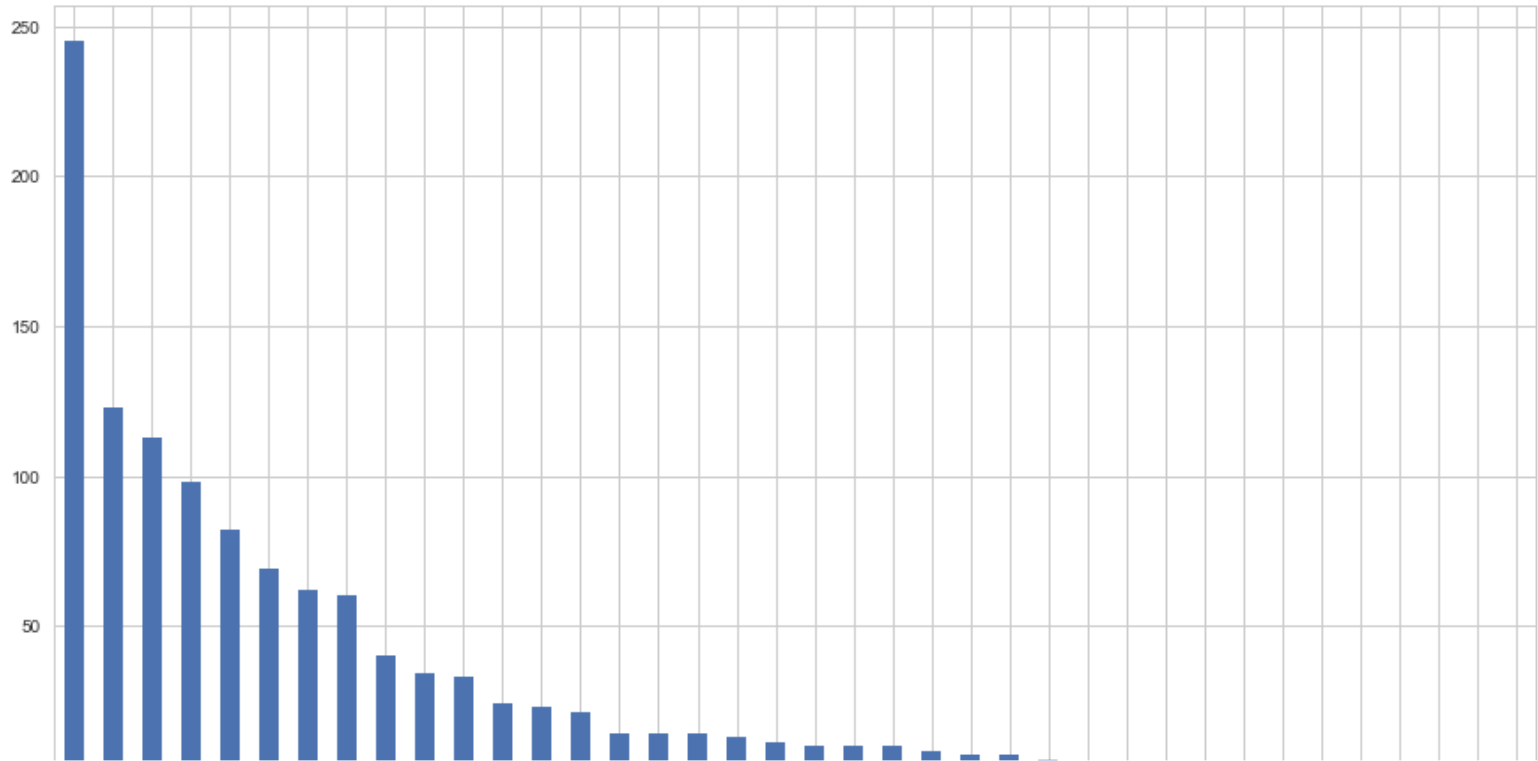
3 AVENUE



In [34]:

```
for title,group in top_ten_street_df.groupby('on_street_name'):
    print(title)
    group['contributing_factor_vehicle_1'].value_counts().plot(kind='bar')
    plt.savefig(title)
    plt.show()
```

3 AVENUE



In [315]:

```
data2=data['borough'].value_counts()
data2
```

Out[315]:

BROOKLYN	243354
QUEENS	206046
MANHATTAN	201461
BRONX	104782
STATEN ISLAND	36598
Name: borough, dtype: int64	

In [36]:

```
drop_Unspecified.groupby('contributing_factor_vehicle_1')['number_of_persons_injured']
```

Out[36]:

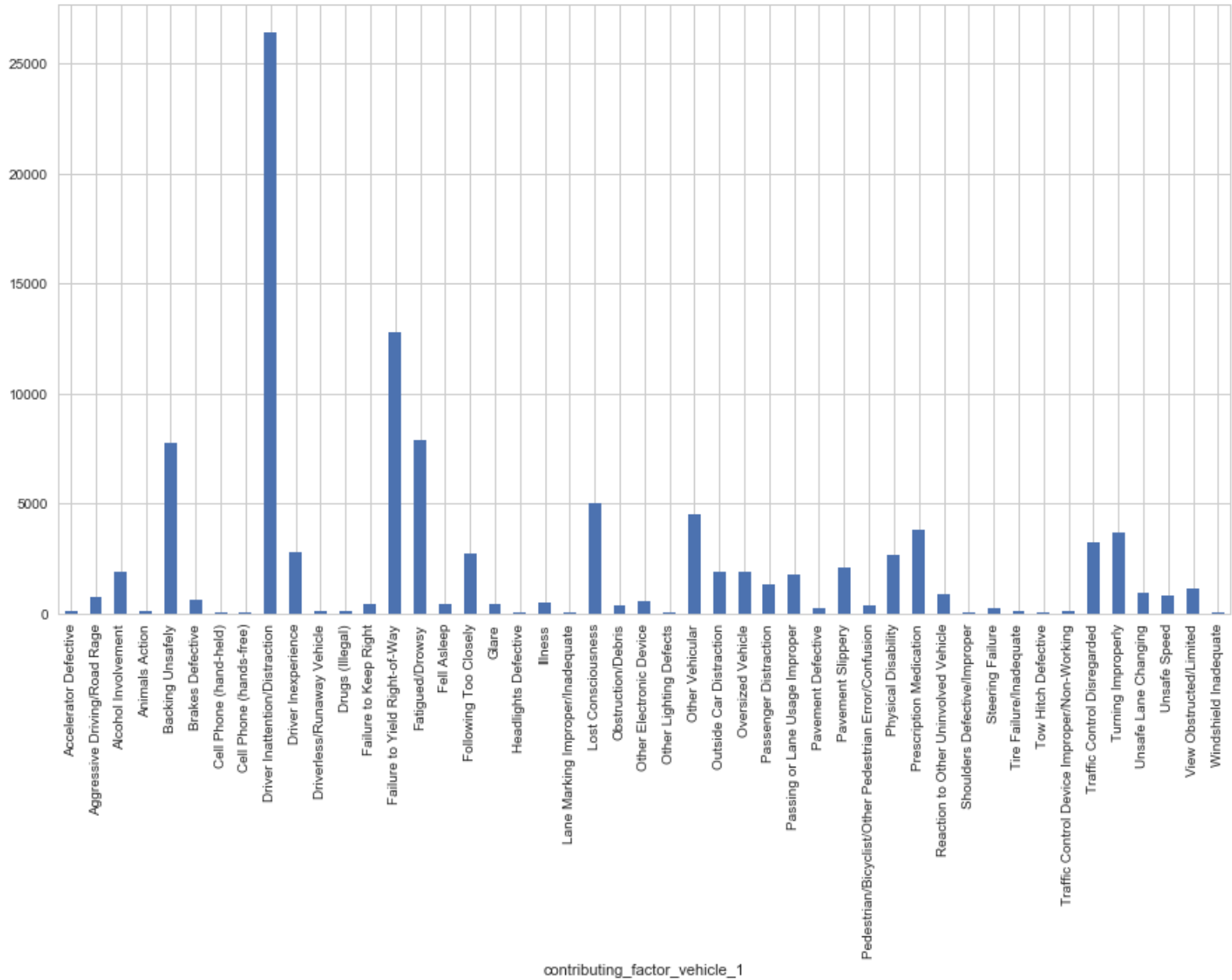
contributing_factor_vehicle_1

Accelerator Defective	48
Aggressive Driving/Road Rage	314
Alcohol Involvement	850
Animals Action	35
Backing Unsafely	876
Brakes Defective	306
Cell Phone (hand-held)	9
Cell Phone (hands-free)	15
Driver Inattention/Distracted	7814
Driver Inexperience	741
Driverless/Runaway Vehicle	10
Drugs (Illegal)	51
Failure to Keep Right	147
Failure to Yield Right-of-Way	6025
Fatigued/Drowsy	2125
Fell Asleep	132
Following Too Closely	879
Glare	262
Headlights Defective	9
Illness	192
Lane Marking Improper/Inadequate	18
Lost Consciousness	668
Obstruction/Debris	41
Other Electronic Device	145
Other Lighting Defects	8
Other Vehicular	1036
Outside Car Distraction	456
Oversized Vehicle	122
Passenger Distraction	966
Passing or Lane Usage Improper	277
Pavement Defective	75
Pavement Slippery	591
Pedestrian/Bicyclist/Other Pedestrian Error/Confusion	271
Physical Disability	1783
Prescription Medication	887
Reaction to Other Uninvolved Vehicle	179
Shoulders Defective/Improper	1
Steering Failure	49
Tire Failure/Inadequate	26
Tow Hitch Defective	1
Traffic Control Device Improper/Non-Working	70
Traffic Control Disregarded	1931
Turning Improperly	643
Unsafe Lane Changing	181
Unsafe Speed	423
View Obstructed/Limited	431
Windshield Inadequate	0

Name: number_of_persons_injured, dtype: int64

In [37]:

```
da=drop_Unspecified.groupby('contributing_factor_vehicle_1')['number_of_persons_injured']
```



In [38]:

```
num_accidents_no_kill
```

Out[38]:

243074

In [39]:

```
Injury_and_death=drop_Unspecified[['number_of_cyclist_injured', 'number_of_cyclist_killed',  
    'number_of_motorist_injured', 'number_of_motorist_killed',  
    'number_of_pedestrians_injured', 'number_of_pedestrians_killed',  
    'number_of_persons_injured', 'number_of_persons_killed']]
```

In [40]:

```
Injury_and_death.sum()
```

Out[40]:

```
number_of_cyclist_injured      3549
number_of_cyclist_killed        11
number_of_motorist_injured     22385
number_of_motorist_killed       57
number_of_pedestrians_injured   6990
number_of_pedestrians_killed    90
number_of_persons_injured      32403
number_of_persons_killed       159
dtype: int64
```

In [41]:

```
injury_alone=brooklyndata[['number_of_cyclist_injured','number_of_motorist_injured',
                           'number_of_pedestrians_injured','number_of_persons_injured']]
injury_alone.sum()
```

Out[41]:

```
number_of_cyclist_injured      7575
number_of_motorist_injured     48008
number_of_pedestrians_injured   16509
number_of_persons_injured      71360
dtype: int64
```

In [42]:

```
death_alone= brooklyndata[['number_of_cyclist_killed','number_of_motorist_killed',
                           'number_of_pedestrians_killed','number_of_persons_killed']]
death_alone.sum()
```

Out[42]:

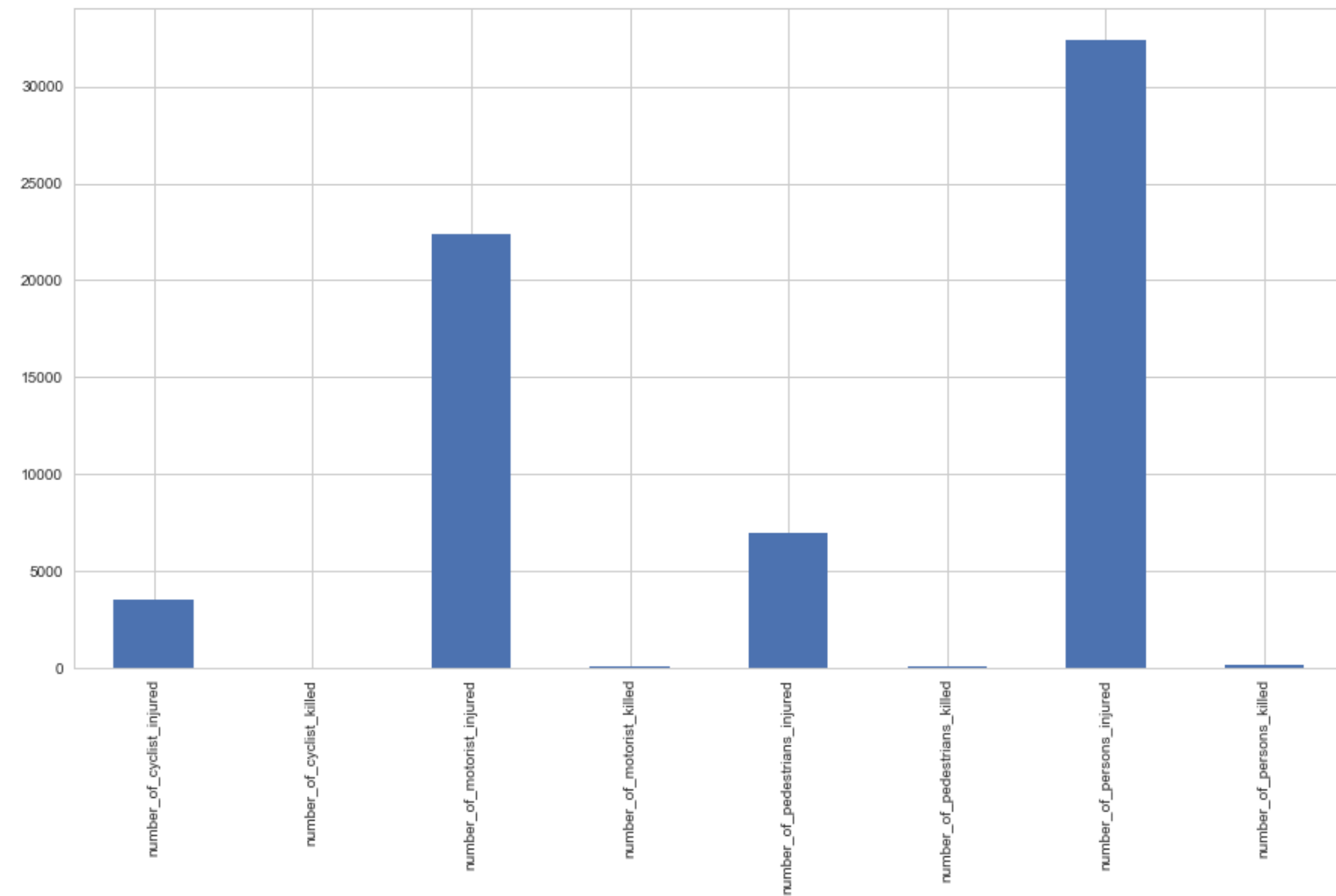
```
number_of_cyclist_killed      24
number_of_motorist_killed     94
number_of_pedestrians_killed  169
number_of_persons_killed     288
dtype: int64
```

In [43]:

```
Injury_and_death.sum().plot(kind='bar')
```

Out[43]:

<matplotlib.axes._subplots.AxesSubplot at 0x11902efd0>



In [44]:

```
accident_by_on_street=drop_Unspecified[['number_of_cyclist_injured', 'number_of_cyclist_killed',  
    'number_of_motorist_injured', 'number_of_motorist_killed',  
    'number_of_pedestrians_injured', 'number_of_pedestrians_killed',  
    'number_of_persons_injured', 'number_of_persons_killed','on_street_name']]
```

In [45]:

```
accident_count=accident_by_on_street.groupby('on_street_name')['on_street_name'].count
```

In [46]:

```
accident_count
```

Out[46]:

on_street_name

on_street_name	
1 AVENUE	39
1 COURT	2
1 PLACE	13
1 STREET	18
10 AVENUE	167
10 STREET	17
100 STREET	6
101 STREET	3
11 AVENUE	173
11 STREET	18
12 AVENUE	179
12 STREET	16
13 AVENUE	345
13 STREET	6
14 AVENUE	302
14 STREET	32
15 AVENUE	189
15 STREET	49
16 AVENUE	194
16 STREET	45
17 AVENUE	166
17 COURT	3
17 STREET	77
18 AVENUE	379
18 STREET	46
18TH AVE	2
19 AVENUE	97
19 STREET	78
2 AVENUE	165
2 PLACE	10
...	
WINTHROP ST	1
WINTHROP STREET	157
WITHERS STREET	26
WOLCOTT STREET	15
WOODBINE STREET	22
WOODHULL STREET	5
WOODPOINT ROAD	16
WOODRUFF AVENUE	16
WOODS PLACE	2
WORTMAN AVENUE	54
WYCKOFF AVENUE	75
WYCKOFF STREET	31
WYONA STREET	14
WYTHE AVE	1
WYTHE AVENUE	370
WYTHE PLACE	5
YORK STREET	45
bqe	1
linden boulevard	1
malcolm x blvd	1
mother gaston blvd	1
paulding street	1

```
pitkin avenue      2
remsen avenue      1
saint johns place  1
schroeders avenue  1
skillman street    1
south 5th street   1
south conduit blvd 1
west 3rd           1
Name: on_street_name, Length: 1562, dtype: int64
```

In [94]:

accident_count

Out[94]:

```
on_street_name
1 AVENUE      39
1 COURT       2
1 PLACE      13
1 STREET     18
10 AVENUE    167
10 STREET    17
100 STREET   6
101 STREET   3
11 AVENUE   173
11 STREET   18
12 AVENUE   179
12 STREET   16
13 AVENUE   345
13 STREET   6
14 AVENUE   302
14 STREET   32
15 AVENUE   189
15 STREET   49
16 AVENUE   194
16 STREET   45
17 AVENUE   166
17 COURT    3
17 STREET   77
18 AVENUE   379
18 STREET   46
18TH AVE    2
19 AVENUE   97
19 STREET   78
2 AVENUE    165
2 PLACE     10
...
WINTHROP ST  1
WINTHROP STREET 157
WITHERS STREET 26
WOLCOTT STREET 15
WOODBINE STREET 22
```

```
WOODHULL STREET      5
WOODPOINT ROAD      16
WOODRUFF AVENUE      16
WOODS PLACE          2
WORTMAN AVENUE       54
WYCKOFF AVENUE       75
WYCKOFF STREET       31
WYONA STREET         14
WYTHE AVE             1
WYTHE AVENUE         370
WYTHE PLACE           5
YORK STREET          45
bqe                   1
linden boulevard     1
malcolm x blvd        1
mother gaston blvd    1
paulding street       1
pitkin avenue         2
remsen avenue         1
saint johns place     1
schroeders avenue     1
skillman street       1
south 5th street      1
south conduit blvd    1
west 3rd              1
Name: on_street_name, Length: 1562, dtype: int64
```

In []:

In [48]:

```
top_ten_street_df.groupby('on_street_name')['contributing_factor_vehicle_1'].count()
```

Out[48]:

```
on_street_name
3 AVENUE      1177
4 AVENUE      1088
ATLANTIC AVENUE  2937
BEDFORD AVENUE  1401
CONEY ISLAND AVENUE  1238
EASTERN PARKWAY  1067
FLATBUSH AVENUE  2102
NOSTRAND AVENUE  1348
OCEAN PARKWAY   1399
UTICA AVENUE    1155
Name: contributing_factor_vehicle_1, dtype: int64
```

In [49]:

```
top_ten_street_df = drop_Unspecified_2.loc[drop_Unspecified_2['on_street_name'].isin  
top_ten_street_df.groupby('on_street_name')['contributing_factor_vehicle_1'].value_c
```

Out[49]:

on_street_name	contributing_factor_vehicle_1
3 AVENUE	Driver Inattention/Distracted
245	Failure to Yield Right-of-Way
123	Fatigued/Drowsy
113	Prescription Medication
98	Turning Improperly
82	Lost Consciousness
69	Backing Unsafely
62	Physical Disability
60	Other Vehicular

In [50]:

```
data['cross_street_name']
```

Out[50]:

0	59 AVENUE
1	UTICA AVENUE
2	NaN
3	JEFFERSON AVENUE
4	FOSTER AVENUE
5	NaN
6	136 AVENUE
7	LORING AVENUE
8	20 AVENUE
9	WEST 5 STREET
10	FINGERBOARD ROAD
11	EAST 105 STREET
12	SOUTH ROAD
13	ANNADALE ROAD
14	NaN
15	WOODSIDE AVENUE
16	34 AVENUE
17	EAST 58 STREET
18	JUNIUS STREET
19	NaN
20	101 AVENUE
21	NaN

```
22          177 STREET
23          NaN
24    GREENWICH AVENUE
25          NaN
26          NaN
27          NaN
28          2 AVENUE
29    GATES AVENUE

...
1089235    166 STREET
1089236    UNION STREET
1089237    YORK AVENUE
1089238    EAST 24 STREET
1089239          NaN
1089240          NaN
1089241          6 AVENUE
1089242    RIVERDALE AVENUE
1089243    NOSTRAND AVENUE
1089244    CEDAR CROFT ROAD
1089245          NaN
1089246    LINCOLN PLACE
1089247    BROADWAY
1089248          3 AVENUE
1089249    EAST 2 STREET
1089250    ROOSEVELT AVENUE
1089251          NaN
1089252          NaN
1089253    EVERGREEN AVENUE
1089254          5 AVENUE
1089255    DAHLIA AVENUE
1089256    PLAINVIEW AVENUE
1089257    DITMAS AVENUE
1089258          NaN
1089259          10 AVENUE
1089260    THAYER STREET
1089261          NaN
1089262    BERGEN AVENUE
1089263          NaN
1089264    BROADWAY
Name: cross_street_name, Length: 1089265, dtype: object
```

In [51]:

```
brooklyndata.groupby('on_street_name')['number_of_persons_killed'].count()
```

Out[51]:

```
on_street_name
1 AVENUE          77
1 COURT           5
1 PLACE          32
1 STREET         61
10 AVENUE       334
```


10 STREET	63
100 STREET	28
101 STREET	13
104 STREET	1
11 AVENUE	363
11 STREET	71
12 AVENUE	397
12 STREET	82
12 avenue	1
13 AVENUE	725
13 STREET	49
14 AVENUE	675
14 STREET	98
15 AVENUE	457
15 STREET	134
16 AVENUE	486
16 STREET	98
17 AVENUE	381
17 COURT	4
17 STREET	182
18 AVENUE	928
18 STREET	96
18TH AVE	2
19 AVENUE	252
19 LANE	1
...	
WYONA STREET	82
WYTHE AVE	1
WYTHE AVENUE	514
WYTHE PLACE	8
Washington avenue	1
YORK STREET	65
bqe	1
chauncey street	1
dekalb avenue	1
elton street	1
hamilton avenue	1
linden boulevard	1
malcolm x blvd	1
morris avenue	2
mother gaston blvd	1
old fulton street	1
paulding street	1
pitkin avenue	4
remsen avenue	1
rockaway ave	1
saint johns place	1
schroeders avenue	1
skillman street	1
south 5th street	1
south conduit blvd	1
south market street	1
st edwards street	1

```
thomas s boyland street      1
utica avenue                  1
west 3rd                      1
Name: number_of_persons_killed, Length: 1798, dtype: int64
```

In [52]:

```
#vehicle_type_code1
brooklyndata.groupby('vehicle_type_code1')['number_of_persons_killed'].count()
```

Out[52]:

```
vehicle_type_code1
AMBULANCE          588
BICYCLE            1067
BUS                3325
FIRE TRUCK         238
LARGE COM VEH(6 OR MORE TIRES) 2762
LIVERY VEHICLE     1223
MOTORCYCLE         1368
OTHER              6907
PASSENGER VEHICLE 144777
PEDICAB            1
PICK-UP TRUCK      3423
SCOOTER            101
SMALL COM VEH(4 TIRES) 3138
SPORT UTILITY / STATION WAGON 58598
TAXI               3026
UNKNOWN            5140
VAN                6234
Name: number_of_persons_killed, dtype: int64
```

In [53]:

```
vehicle_cause_of_accident=drop_Unspecified_on_street.groupby('vehicle_type_code1')[
```

In [54]:

```
vehicle_cause_of_accident
```

Out[54]:

```
vehicle_type_code1
AMBULANCE          561
BICYCLE            845
BUS                3312
FIRE TRUCK         227
LARGE COM VEH(6 OR MORE TIRES) 2730
LIVERY VEHICLE     1221
MOTORCYCLE         1226
OTHER              6730
PASSENGER VEHICLE  130170
PEDICAB            1
PICK-UP TRUCK      3008
SCOOTER            99
SMALL COM VEH(4 TIRES) 2926
SPORT UTILITY / STATION WAGON 53092
TAXI               2733
UNKNOWN            5097
VAN                6080
Name: number_of_persons_injured, dtype: int64
```

In [55]:

```
accident_cause=drop_Unspecified['vehicle_type_code1'].value_counts()
```

In [56]:

```
accident_cause
```

Out[56]:

PASSENGER VEHICLE	58350
SPORT UTILITY / STATION WAGON	28248
VAN	2787
OTHER	2243
TAXI	1778
PICK-UP TRUCK	1760
UNKNOWN	1573
LARGE COM VEH(6 OR MORE TIRES)	1527
SMALL COM VEH(4 TIRES)	1474
BUS	1349
BICYCLE	649
MOTORCYCLE	649
LIVERY VEHICLE	583
AMBULANCE	195
FIRE TRUCK	81
SCOOTER	44
PEDICAB	1

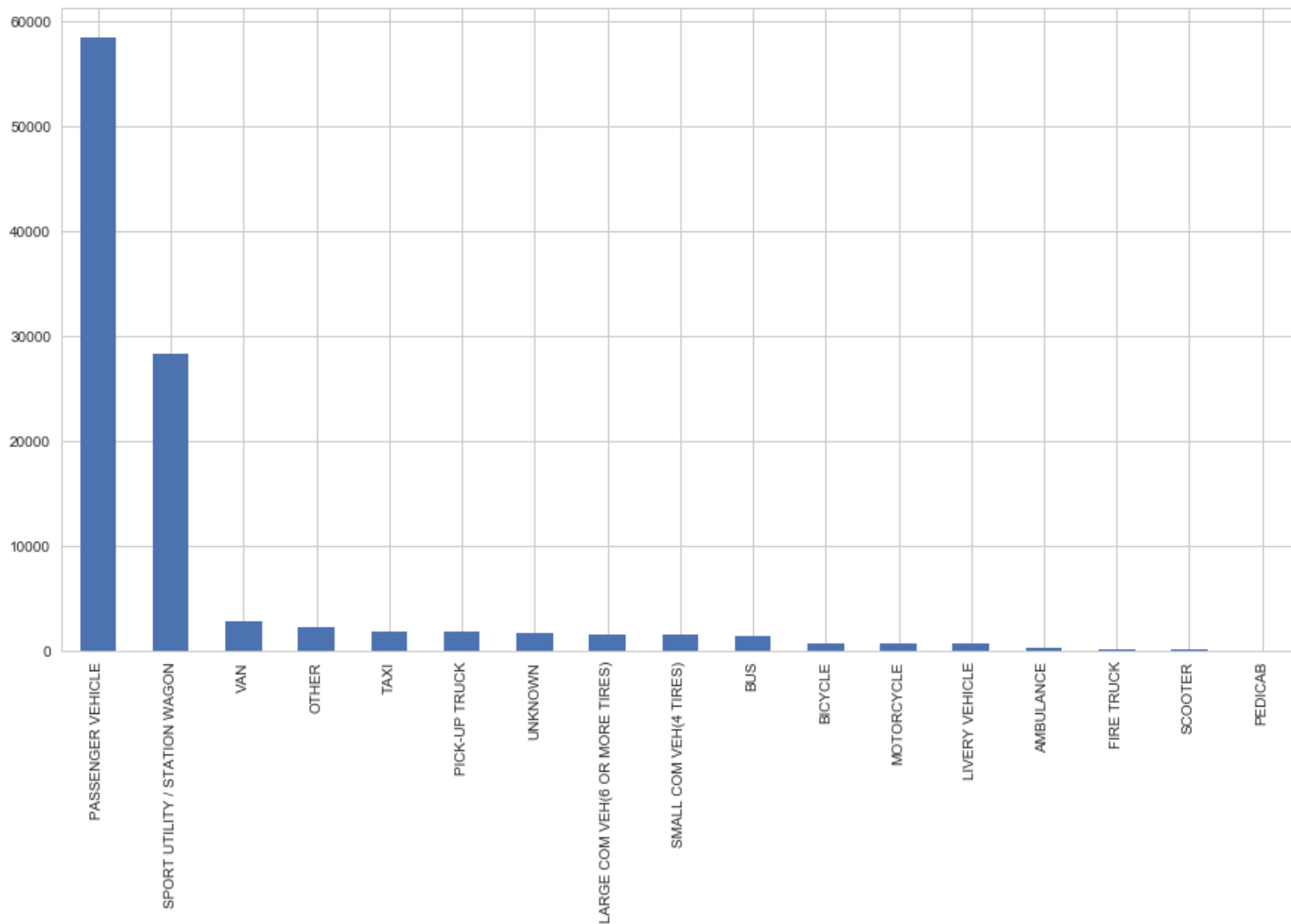
Name: vehicle_type_code1, dtype: int64

In [57]:

```
accident_cause.plot(kind='bar')
```

Out[57]:

<matplotlib.axes._subplots.AxesSubplot at 0x11aeb4b38>



In [124]:

```
data = pd.read_csv("nypd_mv_collisions", parse_dates=[1], infer_datetime_format=True)
temp = pd.DatetimeIndex(data['timestamp'])
data['Date'] = temp.date
data['Time'] = temp.time
data['day']=temp.day
data['year']=temp.year
```

In [125]:

```
data.head()
```

Out[125]:

	borough	contributing_factor_vehicle_1	contributing_factor_vehicle_2	contributing_factor_vehi
0	NaN	Unspecified	Unspecified	
1	BROOKLYN	Unspecified	Unspecified	
2	NaN	Driver Inattention/Distracted	Unspecified	
3	BROOKLYN	Unspecified	Unspecified	
4	BROOKLYN	Unspecified	NaN	

5 rows × 32 columns

In [60]:

```
brooklyndata= data.loc[data['borough']=='BROOKLYN']
```

In [61]:

```
brooklyndata
```

Out[61]:

	borough	contributing_factor_vehicle_1	contributing_factor_vehicle_2	contributing_factor_vehicle_3	c
1	BROOKLYN	Unspecified	Unspecified	NaN	
3	BROOKLYN	Unspecified	Unspecified	NaN	
4	BROOKLYN	Unspecified	NaN	NaN	
7	BROOKLYN	Unspecified	NaN	NaN	

In [325]:

```
time_occurence=brooklyndata['Time'].value_counts()
```

In [326]:

```
top_ten_time_occurence=time_occurence[:10]  
top_ten_time_occurence
```

Out[326]:

```
16:00:00    3278  
15:00:00    3216  
17:00:00    3098  
18:00:00    2822  
14:00:00    2773  
13:00:00    2658  
16:30:00    2463  
12:00:00    2323  
17:30:00    2318  
19:00:00    2292  
Name: Time, dtype: int64
```

In [319]:

```
top_ten_time_occurence.mean()
```

Out[319]:

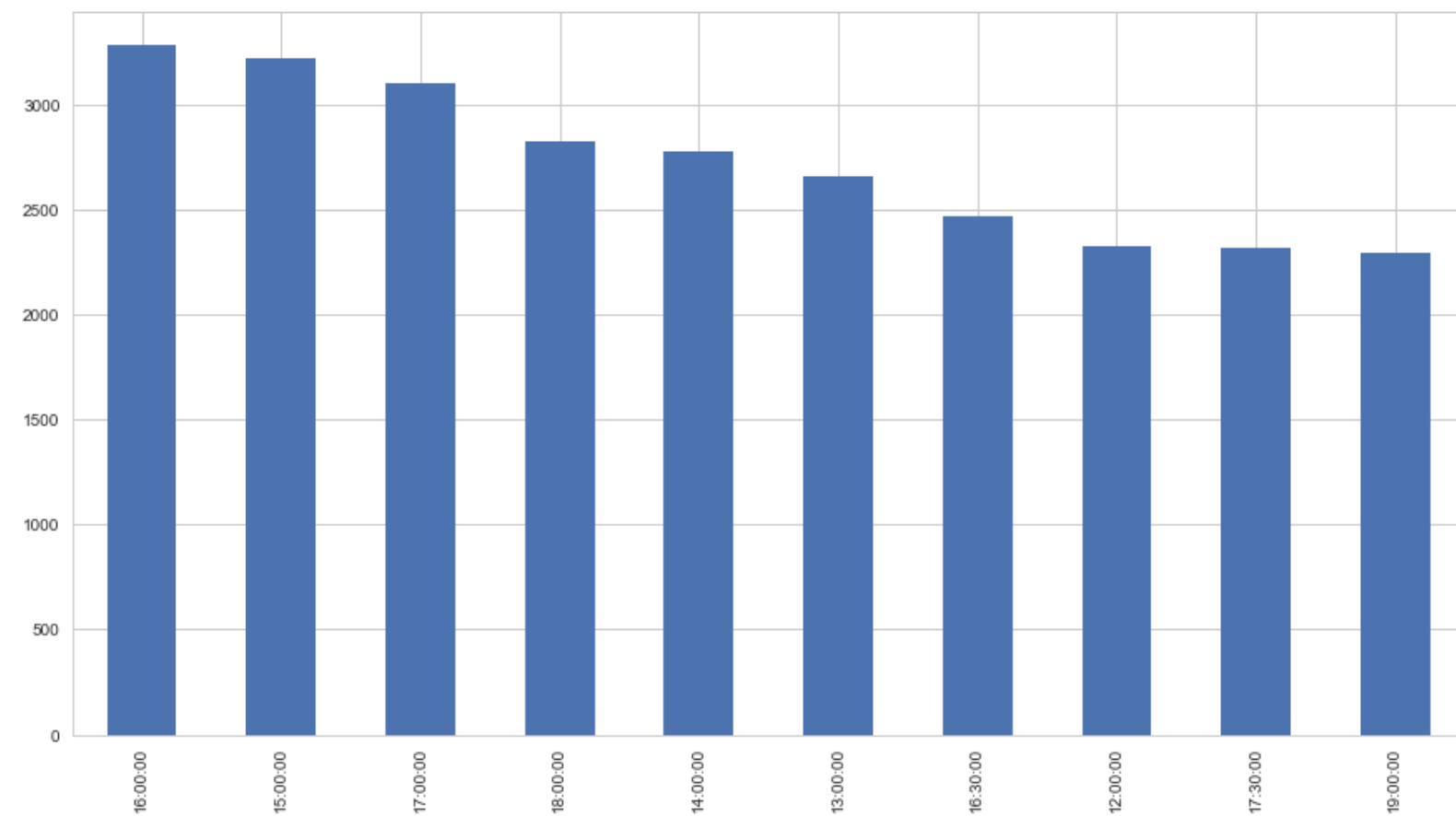
2724.1

In [65]:

```
top_ten_time_occurence.plot(kind='bar')
```

Out[65]:

<matplotlib.axes._subplots.AxesSubplot at 0x118fefcc0>



In [173]:

```
day_occurence=brooklyndata[ 'day' ].value_counts()
```


In [175]:

```
day_occurence[:10]
```

Out[175]:

```
3      8522
1      8348
17     8208
19     8207
7       8185
21     8146
18     8120
2       8109
13     8109
9       8106
```

Name: day, dtype: int64

In [68]:

```
injury_alone_bystreet=brooklyndata[['number_of_cyclist_injured','number_of_motorist_injured',
                                     'number_of_pedestrians_injured','number_of_persons_injured']]
injury_alone_bystreet.sum()
```

Out[68]:

```
number_of_cyclist_injured      7575
number_of_motorist_injured    48008
number_of_pedestrians_injured  16509
number_of_persons_injured      71360
dtype: int64
```

In [69]:

```
drop_Unspecified_on_street['on_street_name'].value_counts()
```

Out[69]:

```
ATLANTIC AVENUE      7264
FLATBUSH AVENUE     5120
LINDEN BOULEVARD     3358
NOSTRAND AVENUE     3298
BEDFORD AVENUE      3143
OCEAN PARKWAY       3019
EASTERN PARKWAY     2964
UTICA AVENUE        2864
CONEY ISLAND AVENUE 2587
PENNSYLVANIA AVENUE 2488
KINGS HIGHWAY       2462
4 AVENUE            2394
```

FULTON STREET	2374
3 AVENUE	2237
OCEAN AVENUE	2194
BUSHWICK AVENUE	2096
CHURCH AVENUE	1877
86 STREET	1715
RALPH AVENUE	1662
65 STREET	1598
BROADWAY	1576
FLATLANDS AVENUE	1465
5 AVENUE	1461
MYRTLE AVENUE	1436
FLUSHING AVENUE	1414
AVENUE U	1407
ROGERS AVENUE	1323
ROCKAWAY PARKWAY	1320
FLATBUSH AVENUE EXTENSION	1308
AVENUE J	1170
...	
DAHL COURT	1
chauncey street	1
Washington avenue	1
JEWELL STREET	1
STILLWELLS PLACE	1
SKIDMORE LANE	1
EAST 35 ST	1
WALWORTH ST	1
LEXINTON AVENUE	1
DOSHER STREET	1
KAUFMAN PLACE	1
S.PORTLAND AVE	1
BRIGHTON 4 ROAD	1
OLEAN STREET	1
Ocean avenue	1
BROOKLYN BATTERY TUNNEL	1
ANGELA DRIVE	1
south conduit blvd	1
OLD MILL ROAD	1
MARTIN L KING PLACE	1
south 5th street	1
ALTON PLACE	1
VERNON AV	1
W 3rd St	1
LOVE LANE	1
Nostrand avenue	1
WOGAN TERRACE	1
3 avenue	1
GATES AVE	1
BERRY ST	1

Name: on_street_name, Length: 1798, dtype: int64

In [70]:

```
injury_alone_bystreet=brooklyndata[['number_of_cyclist_injured','number_of_motorist_injured',  
                                     'number_of_pedestrians_injured','number_of_persons_injured'],  
injury_alone_bystreet
```

Out[70]:

	number_of_cyclist_injured	number_of_motorist_injured	number_of_pedestrians_injured	number_of_persons_injured
1	0	0	0	0
3	0	0	0	0
4	0	4	0	0
7	0	0	1	0
9	0	0	0	0
11	0	0	0	0
14	0	0	0	0

In [71]:

```
dat=injury_alone_bystreet['on_street_name'].value_counts()  
dat
```

Out[71]:

ATLANTIC AVENUE	7264
FLATBUSH AVENUE	5120
LINDEN BOULEVARD	3358
NOSTRAND AVENUE	3298
BEDFORD AVENUE	3143
OCEAN PARKWAY	3019
EASTERN PARKWAY	2964
UTICA AVENUE	2864
CONEY ISLAND AVENUE	2587
PENNSYLVANIA AVENUE	2488
KINGS HIGHWAY	2462
4 AVENUE	2394
FULTON STREET	2374
3 AVENUE	2237
OCEAN AVENUE	2194
BUSHWICK AVENUE	2096
CHURCH AVENUE	1877
86 STREET	1715
RALPH AVENUE	1662
65 STREET	1598

BROADWAY	1576
FLATLANDS AVENUE	1465
5 AVENUE	1461
MYRTLE AVENUE	1436
FLUSHING AVENUE	1414
AVENUE U	1407
ROGERS AVENUE	1323
ROCKAWAY PARKWAY	1320
FLATBUSH AVENUE EXTENSION	1308
AVENUE J	1170
...	
DAHL COURT	1
chauncey street	1
Washington avenue	1
JEWELL STREET	1
STILLWELLS PLACE	1
SKIDMORE LANE	1
EAST 35 ST	1
WALWORTH ST	1
LEXINTON AVENUE	1
DOSHER STREET	1
KAUFMAN PLACE	1
S.PORTLAND AVE	1
BRIGHTON 4 ROAD	1
OLEAN STREET	1
Ocean avenue	1
BROOKLYN BATTERY TUNNEL	1
ANGELA DRIVE	1
south conduit blvd	1
OLD MILL ROAD	1
MARTIN L KING PLACE	1
south 5th street	1
ALTON PLACE	1
VERNON AV	1
W 3rd St	1
LOVE LANE	1
Nostrand avenue	1
WOGAN TERRACE	1
3 avenue	1
GATES AVE	1
BERRY ST	1

Name: on_street_name, Length: 1798, dtype: int64

In [72]:

```
death_alone_bystreet= brooklyndata[['number_of_cyclist_killed','number_of_motorist_killed',
                                     'number_of_pedestrians_killed','number_of_persons_killed','count'])
death_alone_bystreet['on_street_name'].value_counts()
```

Out[72]:

ATLANTIC AVENUE	7264
-----------------	------

FLATBUSH AVENUE	5120
LINDEN BOULEVARD	3358
NOSTRAND AVENUE	3298
BEDFORD AVENUE	3143
OCEAN PARKWAY	3019
EASTERN PARKWAY	2964
UTICA AVENUE	2864
CONEY ISLAND AVENUE	2587
PENNSYLVANIA AVENUE	2488
KINGS HIGHWAY	2462
4 AVENUE	2394
FULTON STREET	2374
3 AVENUE	2237
OCEAN AVENUE	2194
BUSHWICK AVENUE	2096
CHURCH AVENUE	1877
86 STREET	1715
RALPH AVENUE	1662
65 STREET	1598
BROADWAY	1576
FLATLANDS AVENUE	1465
5 AVENUE	1461
MYRTLE AVENUE	1436
FLUSHING AVENUE	1414
AVENUE U	1407
ROGERS AVENUE	1323
ROCKAWAY PARKWAY	1320
FLATBUSH AVENUE EXTENSION	1308
AVENUE J	1170

...

DAHL COURT	1
chauncey street	1
Washington avenue	1
JEWELL STREET	1
STILLWELLS PLACE	1
SKIDMORE LANE	1
EAST 35 ST	1
WALWORTH ST	1
LEXINTON AVENUE	1
DOSHER STREET	1
KAUFMAN PLACE	1
S.PORTLAND AVE	1
BRIGHTON 4 ROAD	1
OLEAN STREET	1
Ocean avenue	1
BROOKLYN BATTERY TUNNEL	1
ANGELA DRIVE	1
south conduit blvd	1
OLD MILL ROAD	1
MARTIN L KING PLACE	1
south 5th street	1
ALTON PLACE	1
VERNON AV	1

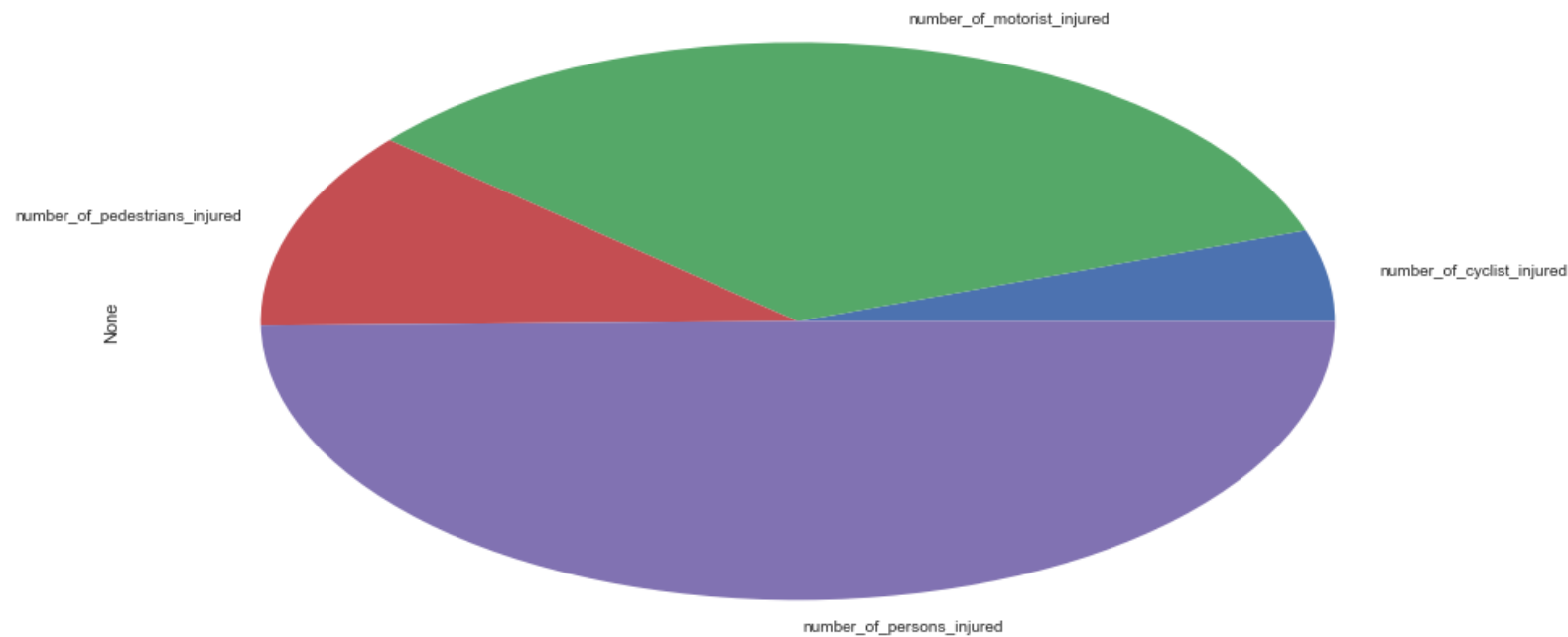
```
W 3rd St      1
LOVE LANE     1
Nostrand avenue 1
WOGAN TERRACE 1
3 avenue      1
GATES AVE     1
BERRY ST      1
Name: on_street_name, Length: 1798, dtype: int64
```

In [73]:

```
injury_alone=brooklyndata[['number_of_cyclist_injured','number_of_motorist_injured',
                           'number_of_pedestrians_injured','number_of_persons_injured']
injury_alone.sum().plot(kind='pie')
```

Out[73]:

<matplotlib.axes._subplots.AxesSubplot at 0x1189ad358>



In []:

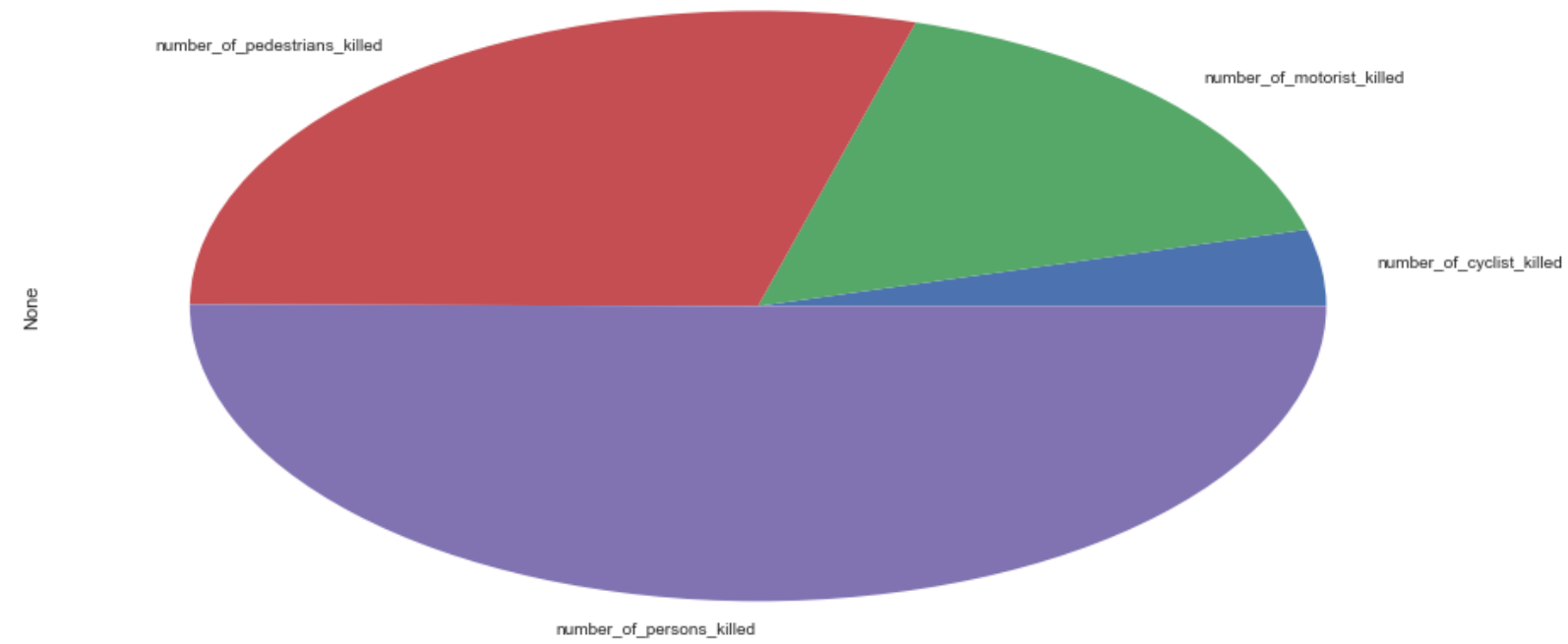
In []:

In [74]:

```
death_alone= brooklyndata[['number_of_cyclist_killed','number_of_motorist_killed',  
                           'number_of_pedestrians_killed','number_of_persons_killed'],]  
death_alone.sum().plot(kind='pie')
```

Out[74]:

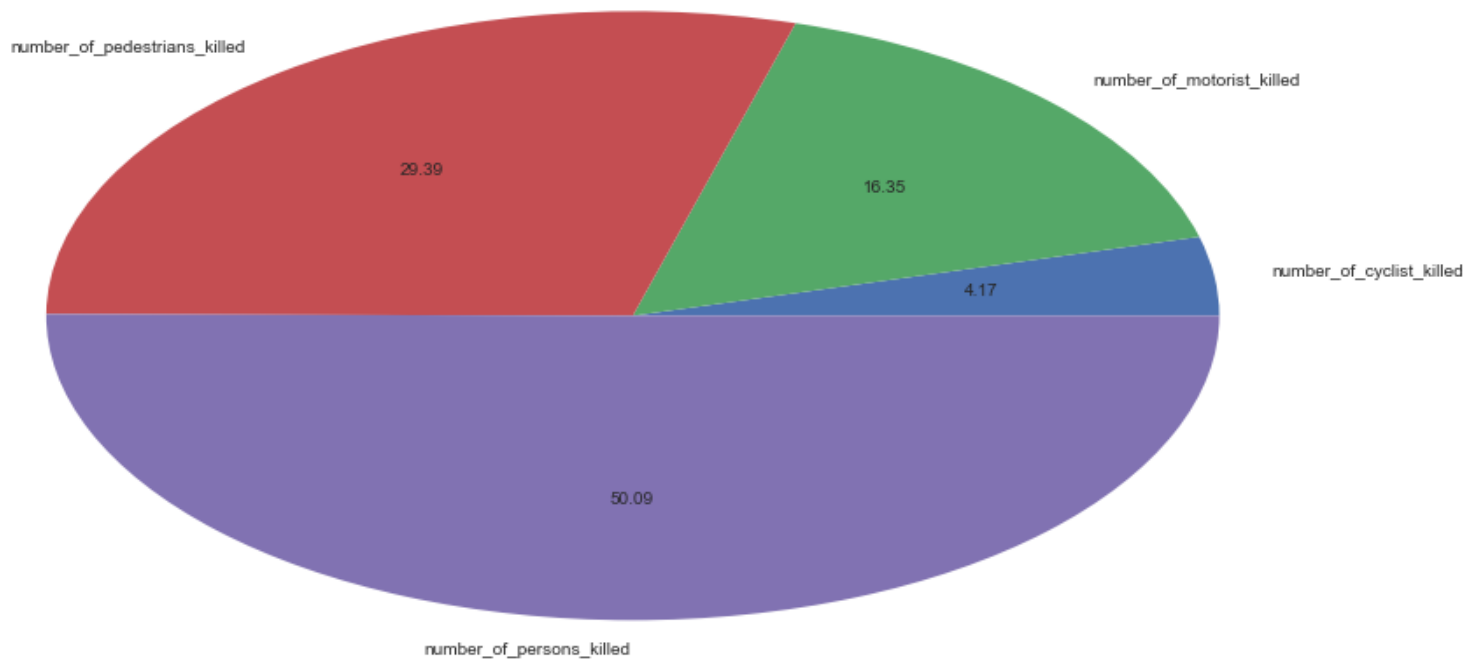
<matplotlib.axes._subplots.AxesSubplot at 0x1184bf518>



In [75]:

```
import matplotlib.pyplot as plt
plt.figure()
values = [24,94,169,288]

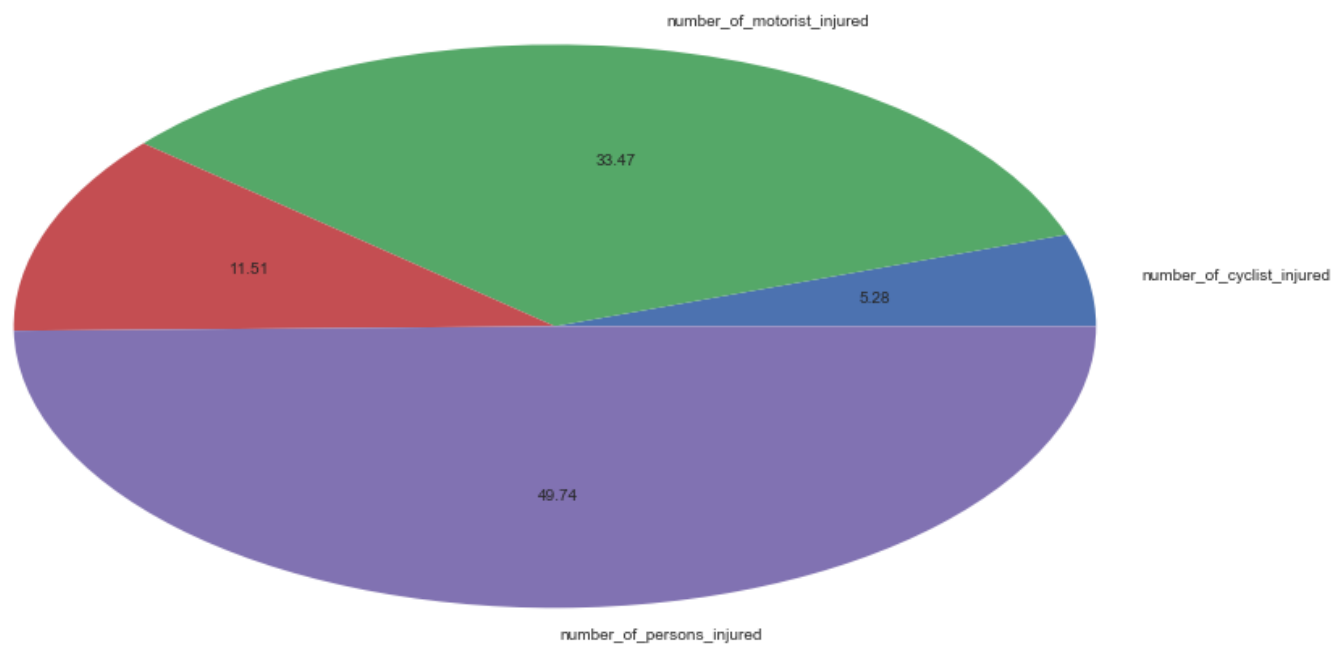
labels = ['number_of_cyclist_killed','number_of_motorist_killed',
          'number_of_pedestrians_killed','number_of_persons_killed']
plt.pie( values,labels=labels, autopct='%.2f')
plt.show()
```



In [76]:

```
import matplotlib.pyplot as plt
plt.figure()
values = [7575,48008,16509,71360]

labels = ['number_of_cyclist_injured','number_of_motorist_injured',
          'number_of_pedestrians_injured','number_of_persons_injured']
plt.pie( values,labels=labels, autopct='%.2f')
plt.show()
```



In [77]:

```
Injury_and_death=drop_Unspecified(['number_of_cyclist_injured', 'number_of_cyclist_killed',
                                     'number_of_motorist_injured', 'number_of_motorist_killed',
                                     'number_of_pedestrians_injured', 'number_of_pedestrians_killed',
                                     'number_of_persons_injured', 'number_of_persons_killed'])
```

In [78]:

```
Injury_and_death.sum()
```

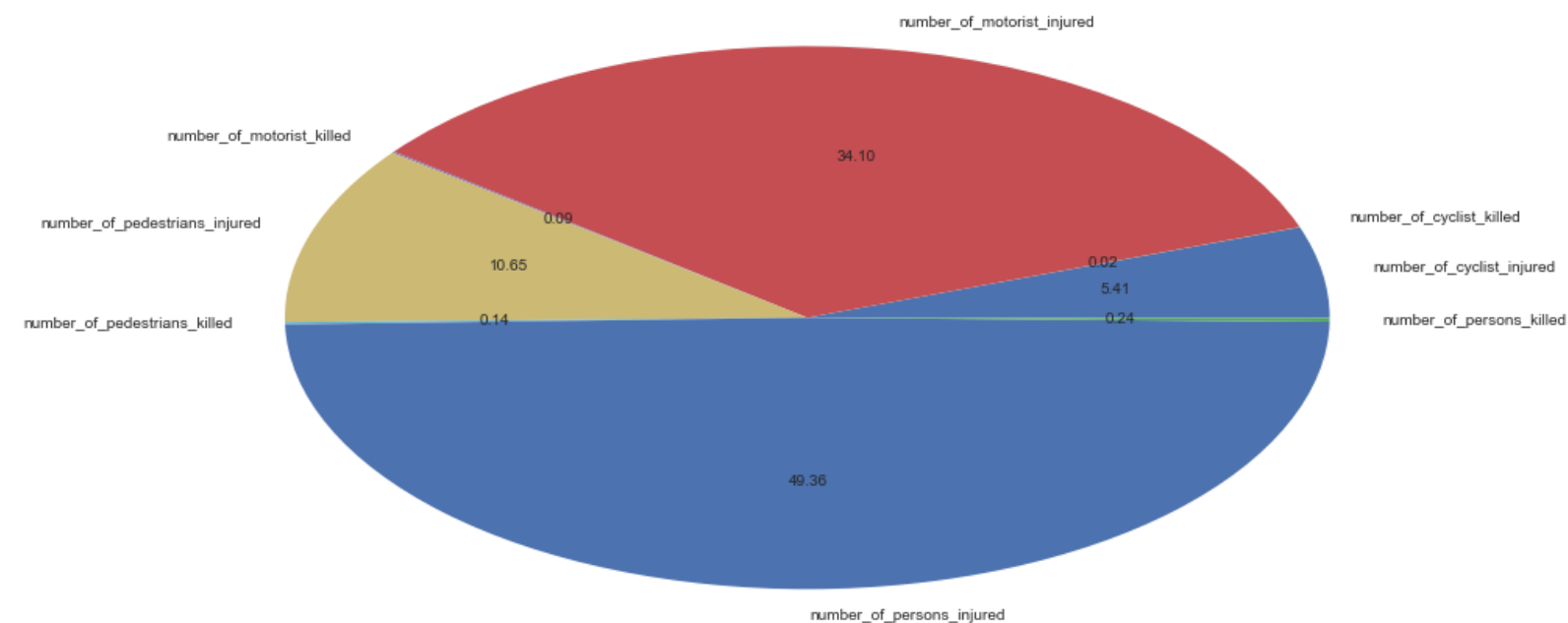
Out[78]:

```
number_of_cyclist_injured      3549
number_of_cyclist_killed        11
number_of_motorist_injured    22385
number_of_motorist_killed       57
number_of_pedestrians_injured  6990
number_of_pedestrians_killed   90
number_of_persons_injured     32403
number_of_persons_killed      159
dtype: int64
```

In [79]:

```
plt.figure()
values = [3549,11,22385,57,6990,90,32403,159]

labels = ['number_of_cyclist_injured', 'number_of_cyclist_killed',
          'number_of_motorist_injured', 'number_of_motorist_killed',
          'number_of_pedestrians_injured', 'number_of_pedestrians_killed',
          'number_of_persons_injured', 'number_of_persons_killed']
plt.pie( values,labels=labels, autopct='%.2f')
plt.show()
```



In [80]:

```
drop_Unspecified_off_street=brooklyndata[pd.notnull(brooklyndata['off_street_name'])]
```

In [81]:

drop_Unspecified_off_street[['off_street_name']]

Out[81]:

	off_street_name
14	750 54 STREET
23	230 6 AVE
85	201 EAST 18 STREET
89	1690 EAST 102 STREET
93	766 EAST 80 STREET
293	739 MACDONOUGH STREET
321	4618 8 AVENUE
456	50 VANDALIA AVENUE
492	9901 GLENWOOD ROAD
495	742 WASHINGTON AVENUE
518	294 PARK PLACE
540	2909 WEST 17 STREET
619	241 SUYDAM STREET
639	60 WATER STREET
649	1366 EAST 37 STREET
692	673 EAST 94 STREET
719	486 7TH STREET
721	799 MANHATTAN AVENUE
782	34 SHARON STREET
817	1397 FULTON STREET
946	1502 PITKIN AVENUE
958	1107 GLENMORE AVENUE
970	872 QUINCY STREET
992	4228 10 AVENUE
1075	181 RUSSELL STREET
1121	962 68 STREET
1165	629 WARREN STREET
1372	367 STOCKHOLM STREET
1409	408 ROCKAWAY AVENUE
1433	1080 MC DONALD AVENUE

...	...
1088086	492 4th Ave
1088127	273 MONROE STREET
1088269	1547 EAST 52 STREET
1088289	308 AVENUE U
1088349	218 RUTLEDGE STREET
1088358	85 LORIMER STREET
1088384	505 NEPTUNE AVENUE
1088417	330 WILSON AVENUE
1088440	2069 WEST 9 STREET
1088454	8870 17 AVENUE
1088569	2147 68 STREET
1088594	1926 EAST 14 STREET
1088618	242 EAST 89 STREET
1088651	1888 PITKIN AVENUE
1088670	472 17 STREET
1088700	136 PROSPECT PARK WEST
1088706	390 HALSEY STREET
1088747	3920 LAUREL AVENUE
1088756	556 ALABAMA AVENUE
1088758	883 BEDFORD AVENUE
1088804	1139 BUSHWICK AVENUE
1088863	1553 OCEAN AVENUE
1088919	433 LAFAYETTE AVENUE
1088946	170 SOUTH 1 STREET
1088956	196 GREENPOINT AVENUE
1088965	407 MYRTLE AVENUE
1088997	240 CROWN STREET
1089014	172 TILLARY STREET
1089028	1911 CHURCH AVENUE
1089096	14 LAWTON STREET

In [82]:

```
offstreet_with_highest_accident=drop_Unspecified_off_street['off_street_name'].value
top_ten_streets2 = offstreet_with_highest_accident[:10]
top_ten_streets2.index
```

Out[82]:

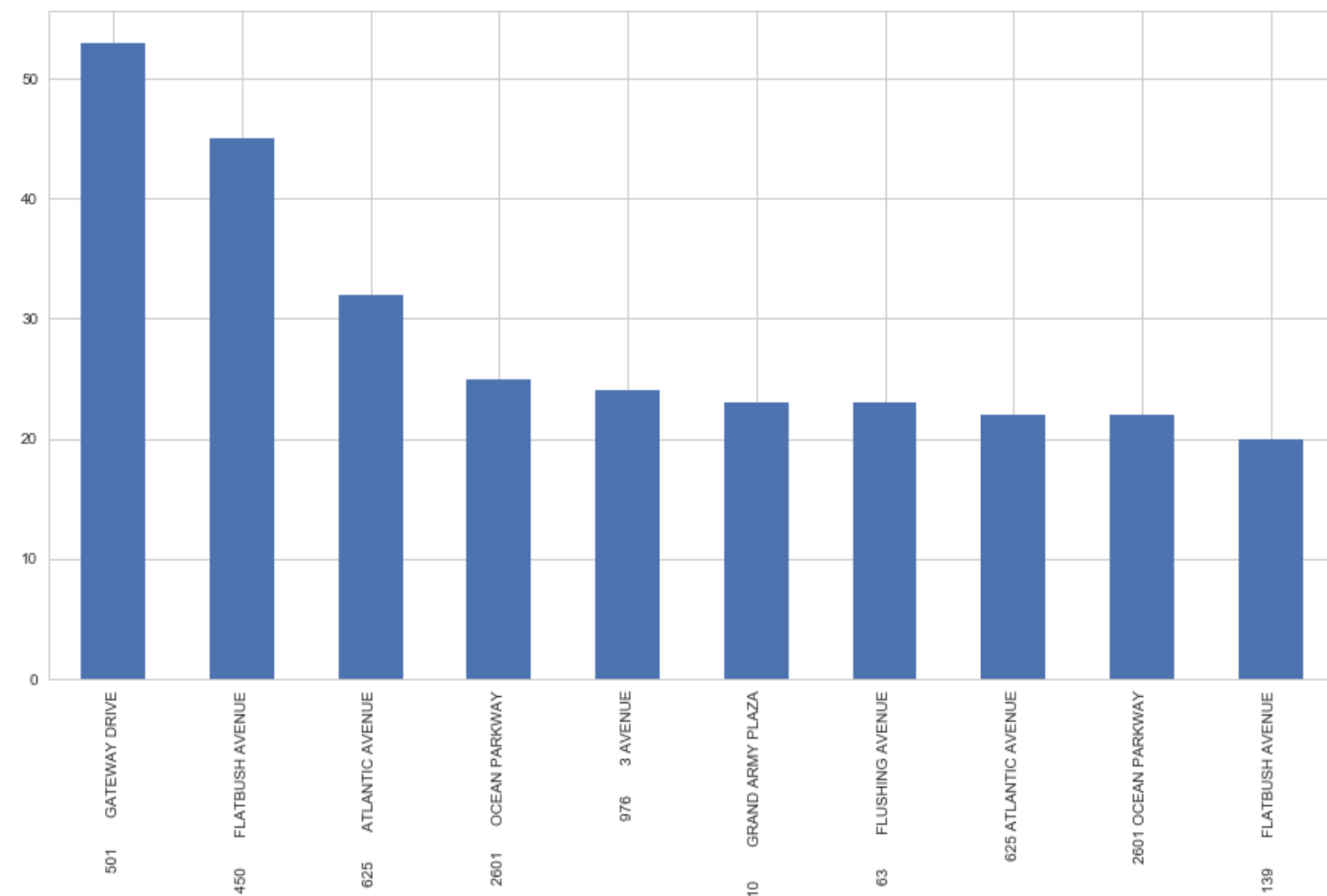
```
Index(['501 GATEWAY DRIVE', '450 FLATBUSH AVENUE',  
      '625 ATLANTIC AVENUE', '2601 OCEAN PARKWAY',  
      '976 3 AVENUE', '10 GRAND ARMY PLAZA',  
      '63 FLUSHING AVENUE', '625 ATLANTIC AVENUE',  
      '2601 OCEAN PARKWAY', '139 FLATBUSH AVENUE'],  
      dtype='object')
```

In [83]:

```
top_ten_streets2.plot(kind='bar')
```

Out[83]:

<matplotlib.axes._subplots.AxesSubplot at 0x119667e10>



In [84]:

```
drop_Unspecified_cross_street=brooklyndata[pd.notnull(brooklyndata['cross_street_name'])]
```

In [85]:

```
drop_Unspecified_cross_street['cross_street_name']
```

Out[85]:

1	UTICA AVENUE
3	JEFFERSON AVENUE
4	FOSTER AVENUE
7	LORING AVENUE
9	WEST 5 STREET
11	EAST 105 STREET
18	JUNIUS STREET
31	SCHENECTADY AVENUE
35	AVENUE I
37	LINDEN BOULEVARD
39	FLATBUSH AVENUE
43	EVERGREEN AVENUE
45	WILSON AVENUE
47	NORTH 5 STREET
52	16 AVENUE
54	LINDEN BOULEVARD
60	HENDRIX STREET
64	FULTON STREET
66	GERRITSEN AVENUE
68	CORTELYOU ROAD
69	6 AVENUE
76	13 AVENUE
83	4 AVENUE
84	PARADE PLACE
86	61 STREET
87	16 AVENUE
104	AVENUE I
106	53 STREET
116	9 AVENUE
119	GRAND AVENUE
	...
1089145	CRAWFORD AVENUE
1089146	EAST 85 STREET
1089147	TROY AVENUE
1089154	BALTIC STREET
1089156	RUSSELL STREET
1089158	67 STREET
1089161	LOUIS PLACE
1089162	FRANKLIN AVENUE
1089168	VERNON AVENUE
1089169	FLUSHING AVENUE
1089170	WOODRUFF AVENUE
1089171	EASTERN PARKWAY

```
1089172      EAST 38 STREET
1089177      EAST 93 STREET
1089179      CROOKE AVENUE
1089190      TERRACE PLACE
1089192      EAST 10 STREET
1089193      PACIFIC STREET
1089201      SHORE BOULEVARD
1089211      BLAKE AVENUE
1089220      NEW YORK AVENUE
1089229      EAST 105 STREET
1089236      UNION STREET
1089238      EAST 24 STREET
1089242      RIVERDALE AVENUE
1089243      NOSTRAND AVENUE
1089246      LINCOLN PLACE
1089249      EAST 2 STREET
1089257      DITMAS AVENUE
1089264      BROADWAY
```

```
Name: cross_street_name, Length: 220984, dtype: object
```

```
In [86]:
```

```
crossstreet_with_highest_accident=drop_Unspecified_cross_street['cross_street_name']
top_ten_streets3 = crossstreet_with_highest_accident[:10]
top_ten_streets3.index
```

```
Out[86]:
```

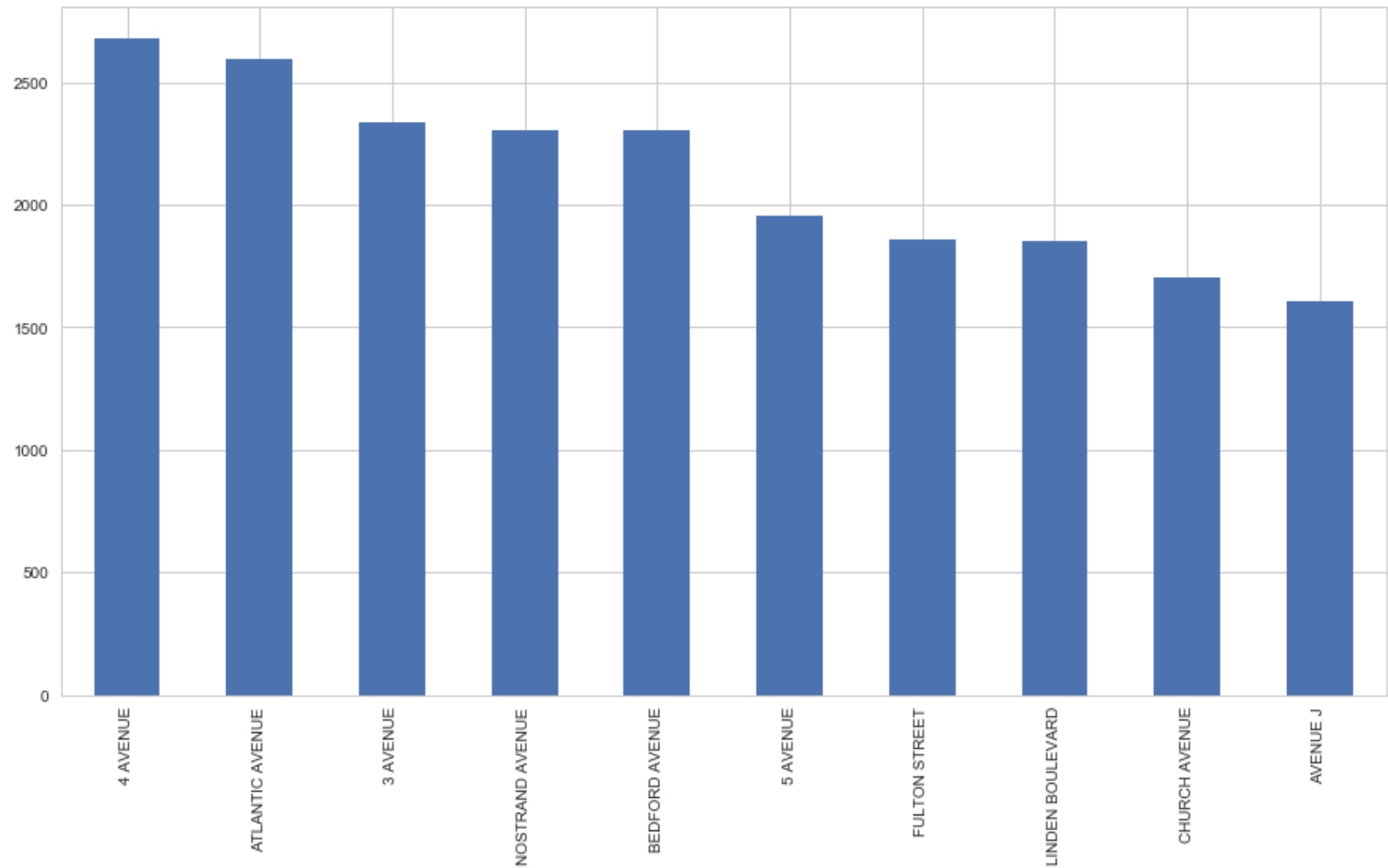
```
Index(['4 AVENUE', 'ATLANTIC AVENUE', '3 AVENUE', 'NOSTRAND AVENUE',
      'BEDFORD AVENUE', '5 AVENUE', 'FULTON STREET', 'LINDEN BOULEVAR
D',
      'CHURCH AVENUE', 'AVENUE J'],
      dtype='object')
```

In [180]:

```
top_ten_streets3.plot(kind='bar')
```

Out[180]:

<matplotlib.axes._subplots.AxesSubplot at 0x12e8c1860>



In [88]:

```
death_alone_factor=drop_Unspecified_off_street[['number_of_cyclist_killed','number_of_pedestrians_killed','number_of_persons_killed','number_of_vehicles_killed']]
```

In [89]:

```
groupdeath=death_alone_factor.groupby('contributing_factor_vehicle_1')['contributing_factor_vehicle_1'].sum()
```


In [90]:

```
groupdeath
```

Out[90]:

contributing_factor_vehicle_1		contributing_f
actor_vehicle_1		
Accelerator Defective		Accelerator De
fective	19	
Aggressive Driving/Road Rage		Aggressive Dri
ving/Road Rage	68	
Alcohol Involvement		Alcohol Involv
ement	196	
Animals Action		Animals Action
24		
Backing Unsafely		Backing Unsafe
ly	1500	
Brakes Defective		Brakes Defecti
ve	54	
Cell Phone (hand-held)		Cell Phone (ha
nd-held)	7	
Cell Phone (hands-free)		Cell Phone (ha
nds-free)	1	

In [91]:

```
time_contributing_factor=brooklyndata.groupby('Time')['contributing_factor_vehicle_1'
```

In [147]:

```
year_growth= brooklyndata.groupby('on_street_name')['number_of_persons_injured'].co
```

In [148]:

```
year_growth.index
```

Out[148]:

```
Index(['1 AVENUE', '1 COURT', '1 PLACE', '1 STREET', '10 AVENUE', '10 STREET',  
      '100 STREET', '101 STREET', '104 STREET', '11 AVENUE',  
      ...  
      'saint johns place', 'schroeders avenue', 'skillman street',  
      'south 5th street', 'south conduit blvd', 'south market street',  
      ,  
      'st edwards street', 'thomas s boyland street', 'utica avenue',  
      'west 3rd'],  
      dtype='object', name='on_street_name', length=1798)
```

In [145]:

street_with_highest_accident

Out[145]:

ATLANTIC AVENUE	2956
FLATBUSH AVENUE	2123
BEDFORD AVENUE	1410
OCEAN PARKWAY	1404
NOSTRAND AVENUE	1359
CONEY ISLAND AVENUE	1244
3 AVENUE	1181
UTICA AVENUE	1164
4 AVENUE	1099
EASTERN PARKWAY	1073
KINGS HIGHWAY	1070
LINDEN BOULEVARD	1048
OCEAN AVENUE	942
FULTON STREET	932
FLATBUSH AVENUE EXTENSION	881
86 STREET	815
TILLARY STREET	768
BROADWAY	749
65 STREET	744
FLUSHING AVENUE	724
CHURCH AVENUE	724
BUSHWICK AVENUE	716
AVENUE U	700
RALPH AVENUE	643
5 AVENUE	634
PENNSYLVANIA AVENUE	630
METROPOLITAN AVENUE	574
FLATLANDS AVENUE	574
MYRTLE AVENUE	553
ROGERS AVENUE	546
...	
SUMNER AVENUE	1
5 ave	1
LANDIS COURT	1
FAIRVIEW PLACE	1
KINGLAND AVENUE	1
THOMAS S BOYLAND STREET	1
MARCUS GARVEY AVENUE	1
south 5th street	1
EVERGREEN AVE	1
FLATBUSH AVE	1
GERALD COURT	1
OLD MILL ROAD	1
W 5th St	1
KRIER PLACE	1
B AVENUE	1
W 3rd St	1
SOUTHGATE COURT	1
JACKSON PLACE	1
BROOKLYN BATTERY TUNNEL	1

```
20 LANE 1
DAHLGREEN PLACE 1
W 9th St 1
RIDGEWOOD PLACE 1
south conduit blvd 1
MC KENNY STREET 1
TENEYCK STREET 1
MORTON STREET 1
DEVON AVENUE 1
SEIGAL STREET 1
VANSICLEN AVENUE 1
Name: on_street_name, Length: 1562, dtype: int64
```

In [168]:

```
top_ten_street_df = drop_Unspecified_2.loc[drop_Unspecified_2['on_street_name'].isin(
top_ten_street_df.groupby('on_street_name')['number_of_persons_injured'].sum())
```

Out[168]:

```
on_street_name
3 AVENUE 363
4 AVENUE 376
ATLANTIC AVENUE 827
BEDFORD AVENUE 597
CONEY ISLAND AVENUE 384
EASTERN PARKWAY 442
FLATBUSH AVENUE 632
NOSTRAND AVENUE 528
OCEAN PARKWAY 450
UTICA AVENUE 508
Name: number_of_persons_injured, dtype: int64
```

In [169]:

```
top_ten_street_df = drop_Unspecified_2.loc[drop_Unspecified_2['on_street_name'].isin(top_ten_street_names)]
top_ten_street_df.groupby('on_street_name')['number_of_persons_killed'].sum()
```

Out[169]:

on_street_name	
3 AVENUE	4
4 AVENUE	3
ATLANTIC AVENUE	7
BEDFORD AVENUE	4
CONEY ISLAND AVENUE	2
EASTERN PARKWAY	3
FLATBUSH AVENUE	2
NOSTRAND AVENUE	0
OCEAN PARKWAY	6
UTICA AVENUE	2
Name: number_of_persons_killed, dtype: int64	

In [302]:

```
data4=brooklyndata.groupby('cross_street_name')['number_of_persons_injured'].value_counts()
```

In [303]:

```
data4[:10]
```

Out[303]:

cross_street_name		number_of_persons_injured
1 AVENUE	0	156
	1	12
	2	2
	3	1
1 COURT	0	1
1 PLACE	0	31
	1	6
	2	1
1 STREET	0	87
	1	16
Name: number_of_persons_injured, dtype: int64		

In [191]:

```
cross_street_data= brooklyndata[['cross_street_name','on_street_name','off_street_name']]
```

In [205]:

```
cross_street_data[:10]
```

Out[205]:

	cross_street_name	on_street_name	off_street_name	number_of_persons_injured	number_of_p
1	UTICA AVENUE	EMPIRE BOULEVARD	NaN	0	
3	JEFFERSON AVENUE	WILSON AVENUE	NaN	0	
4	FOSTER AVENUE	EAST 17 STREET	NaN	4	
7	LORING AVENUE	DREW STREET	NaN	1	
9	WEST 5 STREET	NEPTUNE AVENUE	NaN	0	
11	EAST 105 STREET	FLATLANDS 2 STREET	NaN	0	
14	NaN	NaN	750 54 STREET	0	
18	JUNIUS STREET	EAST NEW YORK AVENUE	NaN	0	
23	NaN	NaN	230 6 AVE	0	
31	SCHENECTADY AVENUE	WINTHROP STREET	NaN	0	

In [300]:

```
group_cross_street=cross_street_data.groupby('cross_street_name')['number_of_persons
```

In [304]:

```
group_cross_street[:10]
```

Out[304]:

cross_street_name	number_of_persons_injured	
1 AVENUE	0	156
	1	12
	2	2
	3	1
1 COURT	0	1
1 PLACE	0	31
	1	6
	2	1
1 STREET	0	87
	1	16

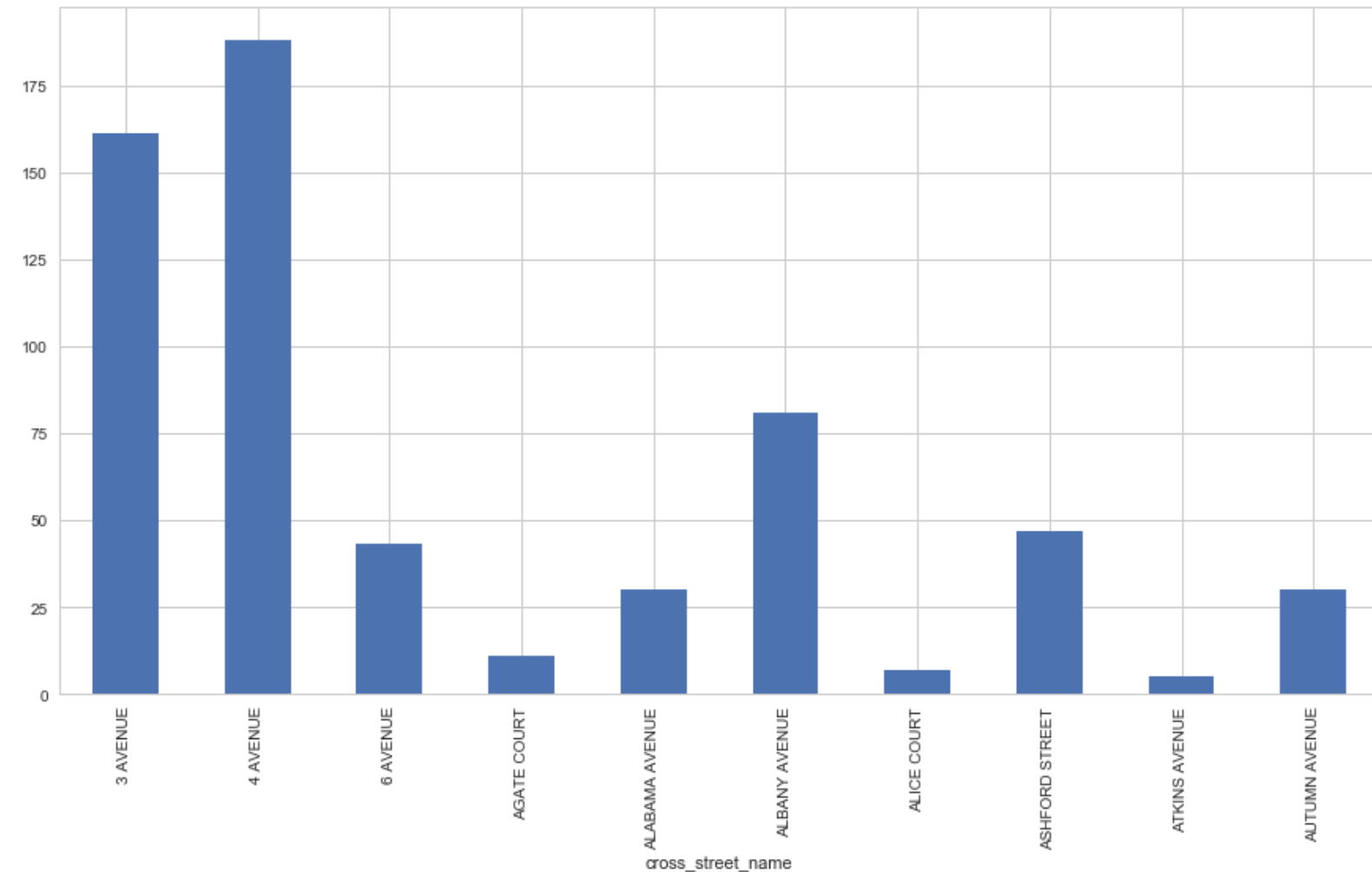
Name: number_of_persons_injured, dtype: int64

In [313]:

```
#brooklyndata= data.loc[data['borough']=='BROOKLYN']
groupings= cross_street_data.loc[cross_street_data['on_street_name']=='ATLANTIC AVE']
grouping1=groupings.groupby('cross_street_name')['cross_street_name'].count()
grouping1[:10].plot(kind='bar')
```

Out[313]:

<matplotlib.axes._subplots.AxesSubplot at 0x11bc05828>



In [275]:

```
#top_ten_street_df = drop_Unspecified_2.loc[drop_Unspecified_2['on_street_name'].isna()]
sort= sorted(grouping1, reverse=True,)
```

In []:

In []:

In []:

In [5]:

In [6]:

In [7]:

In [93]:

Out[93]:

	borough	contributing_factor_vehicle_1	contributing_factor_vehicle_2	contributing_fac
0	NaN	Unspecified	Unspecified	
1	BROOKLYN	Unspecified	Unspecified	
2	NaN	Driver Inattention/Distraction	Unspecified	
3	BROOKLYN	Unspecified	Unspecified	
4	BROOKLYN	Unspecified	NaN	
5	NaN	Turning Improperly	Unspecified	

6	QUEENS	Unspecified	Unspecified	
7	BROOKLYN	Unspecified	NaN	
8	QUEENS	Unspecified	Unspecified	
9	BROOKLYN	Driver Inattention/Distraction	Unspecified	
10	NaN	Driver Inattention/Distraction	NaN	
11	BROOKLYN	Unspecified	Unspecified	
12	QUEENS	Driver Inexperience	Driver Inexperience	Drive
13	STATEN ISLAND	Unspecified	Unspecified	
14	BROOKLYN	Unspecified	NaN	
15	NaN	Lost Consciousness	Unspecified	
16	QUEENS	Unspecified	Unspecified	
17	MANHATTAN	nan	NaN	
18	BROOKLYN	Unspecified	Unspecified	

19	NaN	Unspecified	Unspecified
20	QUEENS	Prescription Medication	Unspecified
21	NaN	Unspecified	NaN
22	QUEENS	Unspecified	Unspecified
23	BROOKLYN	Unspecified	Unspecified
24	MANHATTAN	Failure to Yield Right-of-Way	NaN
25	NaN	Traffic Control Disregarded	NaN
26	NaN	Backing Unsafely	Unspecified
27	NaN	Aggressive Driving/Road Rage	Unspecified
28	MANHATTAN	Driver Inattention/Distraction	Other Vehicular
29	QUEENS	Failure to Yield Right-of-Way	Unspecified
...
1089235	QUEENS	Prescription Medication	Unspecified
1089236	BROOKLYN	Unspecified	Unspecified

1089237	MANHATTAN	Other Vehicular	Fatigued/Drowsy
1089238	BROOKLYN	Unspecified	Unspecified
1089239	NaN	Backing Unsafely	NaN
1089240	NaN	Prescription Medication	Unspecified
1089241	MANHATTAN	Unspecified	Unspecified
1089242	BROOKLYN	Unspecified	Unspecified
1089243	BROOKLYN	Other Vehicular	Unspecified
1089244	QUEENS	Lost Consciousness	Unspecified
1089245	NaN	Driver Inattention/Distraction	Unspecified
1089246	BROOKLYN	Driver Inattention/Distraction	Unspecified
1089247	MANHATTAN	Outside Car Distraction	Outside Car Distraction
1089248	BRONX	Fatigued/Drowsy	Unspecified
1089249	BROOKLYN	Unspecified	Unspecified
1089250			

	NaN	Prescription Medication	Unspecified
1089251	NaN	Following Too Closely	Unspecified
1089252	NaN	Driver Inattention/Distraction	NaN
1089253	STATEN ISLAND	Failure to Yield Right-of-Way	Unspecified
1089254	MANHATTAN	Driver Inattention/Distraction	Driver Inattention/Distraction
1089255	QUEENS	Prescription Medication	Unspecified
1089256	QUEENS	Oversized Vehicle	NaN
1089257	BROOKLYN	Unspecified	NaN
1089258	MANHATTAN	Unspecified	Unspecified
1089259	MANHATTAN	Driver Inattention/Distraction	NaN
1089260	MANHATTAN	Unspecified	Unspecified
1089261	MANHATTAN	Driver Inattention/Distraction	Unspecified
1089262	BRONX	Unspecified	NaN
1089263	QUEENS	Pavement Slippery	Unspecified

1089264

BROOKLYN

Driver Inattention/Distraction

Unspecified

1089265 rows × 31 columns

In [9]:

Out[9]:

```
Index(['borough', 'contributing_factor_vehicle_1',
      'contributing_factor_vehicle_2', 'contributing_factor_vehicle_3',
      'contributing_factor_vehicle_4', 'contributing_factor_vehicle_5',
      'cross_street_name', 'timestamp', 'latitude', 'longitude', 'location',
      'number_of_cyclist_injured', 'number_of_cyclist_killed',
      'number_of_motorist_injured', 'number_of_motorist_killed',
      'number_of_pedestrians_injured', 'number_of_pedestrians_killed',
      'number_of_persons_injured', 'number_of_persons_killed',
      'off_street_name', 'on_street_name', 'unique_key', 'vehicle_type_code1',
      'vehicle_type_code2', 'vehicle_type_code_3', 'vehicle_type_code_4',
      'vehicle_type_code_5', 'zip_code'],
      dtype='object')
```

In [10]:

In [11]:

Out[11]:

	borough	contributing_factor_vehicle_1	contributing_factor_vehicle_2	contributing_factor_vehicle_3
1	BROOKLYN	Unspecified	Unspecified	Unspecified
3	BROOKLYN	Unspecified	Unspecified	Unspecified

4	BROOKLYN	Unspecified	NaN
7	BROOKLYN	Unspecified	NaN
9	BROOKLYN	Driver Inattention/Distraction	Unspecified
11	BROOKLYN	Unspecified	Unspecified
14	BROOKLYN	Unspecified	NaN
18	BROOKLYN	Unspecified	Unspecified
23	BROOKLYN	Unspecified	Unspecified
31	BROOKLYN	Unspecified	Unspecified
35	BROOKLYN	Driver Inattention/Distraction	Unspecified
37	BROOKLYN	Unspecified	Unspecified
39	BROOKLYN	Oversized Vehicle	Unspecified
43	BROOKLYN	Unspecified	Unspecified
45	BROOKLYN	Unspecified	NaN

47	BROOKLYN	Driver Inexperience	Unspecified
52	BROOKLYN	Driver Inexperience	Unspecified
54	BROOKLYN	Unspecified	Unspecified
60	BROOKLYN	Unspecified	Unspecified
64	BROOKLYN	Unspecified	NaN
66	BROOKLYN	Following Too Closely	Unspecified
68	BROOKLYN	Unspecified	Unspecified
69	BROOKLYN	Unspecified	Unspecified
76	BROOKLYN	Unspecified	Unspecified
83	BROOKLYN	Prescription Medication	Unspecified
84	BROOKLYN	Fatigued/Drowsy	Unspecified
85	BROOKLYN	Driver Inattention/Distraction	Unspecified
86	BROOKLYN	Failure to Yield Right-of-Way	Unspecified
87	BROOKLYN	Unspecified	Unspecified

89			
	BROOKLYN	Backing Unsafely	Backing Unsafely
...
1089145	BROOKLYN	Unspecified	Unspecified
1089146	BROOKLYN	Unspecified	Unspecified
1089147	BROOKLYN	Unspecified	Unspecified
1089154	BROOKLYN	Unspecified	Unspecified
1089156	BROOKLYN	Lost Consciousness	Lost Consciousness
1089158	BROOKLYN	Fatigued/Drowsy	Unspecified
1089161	BROOKLYN	Unspecified	Unspecified
1089162	BROOKLYN	Unspecified	Unspecified
1089168	BROOKLYN	Fatigued/Drowsy	Unspecified
1089169	BROOKLYN	Unspecified	Unspecified
1089170	BROOKLYN	Failure to Yield Right-of-Way	NaN
1089171	BROOKLYN	Unspecified	NaN

	BROOKLYN	Unspecified	NaN
1089172	BROOKLYN	Prescription Medication	Lost Consciousness
1089177	BROOKLYN	Unspecified	Unspecified
1089179	BROOKLYN	Unspecified	Unspecified
1089190	BROOKLYN	Unspecified	Unspecified
1089192	BROOKLYN	Physical Disability	Physical Disability
1089193	BROOKLYN	Driver Inattention/Distraction	Fatigued/Drowsy
1089201	BROOKLYN	Failure to Yield Right-of-Way	Failure to Yield Right-of-Way
1089211	BROOKLYN	Unspecified	Unspecified
1089220	BROOKLYN	Unspecified	Unspecified
1089229	BROOKLYN	Driver Inattention/Distraction	NaN
1089236	BROOKLYN	Unspecified	Unspecified
1089238	BROOKLYN	Unspecified	Unspecified
1089242	BROOKLYN	Unspecified	Unspecified

1089243

BROOKLYN Other Vehicular Unspecified

1089246

BROOKLYN Driver Inattention/Distraction Unspecified

1089249

BROOKLYN Unspecified Unspecified

1089257

BROOKLYN Unspecified NaN

1089264

BROOKLYN Driver Inattention/Distraction Unspecified

243354 rows × 28 columns

In [12]:

Out[12]:

contributing_factor_vehicle_1	
Accelerator Defective	0.436364
Aggressive Driving/Road Rage	0.427793
Alcohol Involvement	0.447368
Animals Action	0.350000
Backing Unsafely	0.113574
Brakes Defective	0.492754
Cell Phone (hand-held)	0.257143
Cell Phone (hands-free)	0.288462
Driver Inattention/Distraction	0.296007
Driver Inexperience	0.269063
Driverless/Runaway Vehicle	0.108696
Drugs (Illegal)	0.447368
Failure to Keep Right	0.345882
Failure to Yield Right-of-Way	0.470703
Fatigued/Drowsy	0.270908
Fell Asleep	0.335878
Following Too Closely	0.322687
Glare	0.612150
Headlights Defective	0.450000
Illness	0.400000
Lane Marking Improper/Inadequate	0.333333

Lost Consciousness	0.133761
Obstruction/Debris	0.128527
Other Electronic Device	0.281553
Other Lighting Defects	0.380952
Other Vehicular	0.232079
Outside Car Distraction	0.238994
Oversized Vehicle	0.065946
Passenger Distraction	0.722513
Passing or Lane Usage Improper	0.160116
Pavement Defective	0.307377
Pavement Slippery	0.289280
Pedestrian/Bicyclist/Other Pedestrian Error/Confusion	0.761236
Physical Disability	0.672323
Prescription Medication	0.234284
Reaction to Other Uninvolved Vehicle	0.213604
Shoulders Defective/Improper	0.250000
Steering Failure	0.219731
Tire Failure/Inadequate	0.216667
Tow Hitch Defective	0.045455
Traffic Control Device Improper/Non-Working	0.700000
Traffic Control Disregarded	0.601558
Turning Improperly	0.175635
Unsafe Lane Changing	0.195676
Unsafe Speed	0.547927
Unspecified	0.279855
View Obstructed/Limited	0.385855
Windshield Inadequate	0.000000

Name: number_of_persons_injured, dtype: float64

In [13]:

In [14]:

In [15]:

Out[15]:

280

In [16]:

Out[16]:

1277	BROOKLYN	Passenger Distraction	Unspecified
5785	BROOKLYN	Unspecified	Unspecified
12354	BROOKLYN	Unspecified	NaN
16342	BROOKLYN	Traffic Control Disregarded	Unspecified
20661	BROOKLYN	Unspecified	NaN
20751	BROOKLYN	Failure to Yield Right-of-Way	NaN
20905	BROOKLYN	Unspecified	NaN
30793	BROOKLYN	Traffic Control Disregarded	Unspecified
32463	BROOKLYN	Traffic Control Disregarded	Unspecified
39816	BROOKLYN	Driver Inattention/Distracton	NaN
40496	BROOKLYN	Unspecified	NaN
41308	BROOKLYN	Unspecified	NaN
41678	BROOKLYN	View Obstructed/Limited	Driver Inattention/Distracton
43997			

	BROOKLYN	Unspecified	Unspecified
46185			
	BROOKLYN	Driver Inattention/Distracted	NaN
52432			
	BROOKLYN	Alcohol Involvement	Unspecified
60061			
	BROOKLYN	Unsafe Speed	NaN
66498			
	BROOKLYN	Traffic Control Disregarded	NaN
68099			
	BROOKLYN	Unspecified	NaN
68691			
	BROOKLYN	Unspecified	Unspecified
73464			
	BROOKLYN	Failure to Yield Right-of-Way	Driver Inattention/Distracted
76495			
	BROOKLYN	Unspecified	NaN
87633			
	BROOKLYN	Failure to Yield Right-of-Way	NaN
100359			
	BROOKLYN	Unspecified	NaN
103478			
	BROOKLYN	Failure to Yield Right-of-Way	NaN
103635			
	BROOKLYN	Driver Inattention/Distracted	Unspecified
106676			
	BROOKLYN	Physical Disability	Failure to Yield Right-of-Way

108953	BROOKLYN	Driver Inattention/Distraction	Unspecified
116070	BROOKLYN	Unspecified	Unspecified
132684	BROOKLYN	Driver Inattention/Distraction	NaN
...
968020	BROOKLYN	Failure to Yield Right-of-Way	Traffic Control Disregarded
974227	BROOKLYN	Unspecified	NaN
977311	BROOKLYN	Failure to Yield Right-of-Way	NaN
984338	BROOKLYN	Unspecified	NaN
990488	BROOKLYN	Passenger Distraction	NaN
993911	BROOKLYN	Unspecified	NaN
996703	BROOKLYN	Unspecified	NaN
997408	BROOKLYN	Unspecified	Unspecified
1011006	BROOKLYN	Failure to Yield Right-of-Way	NaN
1016891	BROOKLYN	Driver Inattention/Distraction	Driver Inattention/Distraction

1022625	BROOKLYN	Alcohol Involvement	NaN
1024077	BROOKLYN	Unspecified	Unspecified
1024606	BROOKLYN	Unspecified	Unspecified
1035040	BROOKLYN	Unspecified	NaN
1039909	BROOKLYN	Unspecified	NaN
1041476	BROOKLYN	Unspecified	NaN
1049451	BROOKLYN	Unspecified	NaN
1052587	BROOKLYN	Unspecified	NaN
1059204	BROOKLYN	Unspecified	Unspecified
1067665	BROOKLYN	Driver Inattention/Distraction	NaN
1075190	BROOKLYN	Driver Inexperience	NaN
1075660	BROOKLYN	Failure to Yield Right-of-Way	Unspecified
1077210	BROOKLYN	Driver Inattention/Distraction	NaN

1077312	BROOKLYN	Driver Inattention/Distraction	NaN
1077398	BROOKLYN	Alcohol Involvement	NaN
1078110	BROOKLYN	Backing Unsafely	NaN
1080767	BROOKLYN	Unspecified	Unspecified
1081730	BROOKLYN	Unspecified	Unspecified
1084436	BROOKLYN	Traffic Control Disregarded	Unspecified
1089172	BROOKLYN	Prescription Medication	Lost Consciousness

280 rows x 28 columns

In [17]:

--

In [18]:

Out[18]:

Unspecified	125
Driver Inattention/Distracted	33
Traffic Control Disregarded	32
Failure to Yield Right-of-Way	29
Passenger Distraction	11
Physical Disability	9
Alcohol Involvement	7
Backing Unsafely	7
View Obstructed/Limited	5
Unsafe Speed	5
Prescription Medication	4
Following Too Closely	3
Lost Consciousness	2
Glare	2
Pedestrian/Bicyclist/Other Pedestrian Error/Confusion	1
Driver Inexperience	1
Other Vehicular	1
Passing or Lane Usage Improper	1

Name: contributing_factor_vehicle_1, dtype: int64

In [19]:

Out[19]:

<matplotlib.axes._subplots.AxesSubplot at 0x1256555f8>



In [20]:

In [21]:

Out[21]:

Unspecified	139204
Driver Inattention/Distracted	26398
Failure to Yield Right-of-Way	12800
Fatigued/Drowsy	7844
Backing Unsafely	7713
Lost Consciousness	4994
Other Vehicular	4464
Prescription Medication	3786
Turning Improperly	3661
Traffic Control Disregarded	3210
Driver Inexperience	2754
Following Too Closely	2724
Physical Disability	2652
Pavement Slippery	2043
Outside Car Distraction	1908
Alcohol Involvement	1900
Oversized Vehicle	1850
Passing or Lane Usage Improper	1730
Passenger Distraction	1337
View Obstructed/Limited	1117
Unsafe Lane Changing	925
Reaction to Other Uninvolved Vehicle	838
Unsafe Speed	772
Aggressive Driving/Road Rage	734
Brakes Defective	621
Other Electronic Device	515
Illness	480
Glare	428
Failure to Keep Right	425
Fell Asleep	393
Pedestrian/Bicyclist/Other Pedestrian Error/Confusion	356
Obstruction/Debris	319
Pavement Defective	244
Steering Failure	223
Tire Failure/Inadequate	120
Drugs (Illegal)	114
Accelerator Defective	110
Traffic Control Device Improper/Non-Working	100
Animals Action	100
Driverless/Runaway Vehicle	92
Lane Marking Improper/Inadequate	54
Cell Phone (hands-free)	52
Cell Phone (hand-held)	35
Tow Hitch Defective	22

Other Lighting Defects21

Headlights Defective20

Windshield Inadequate14

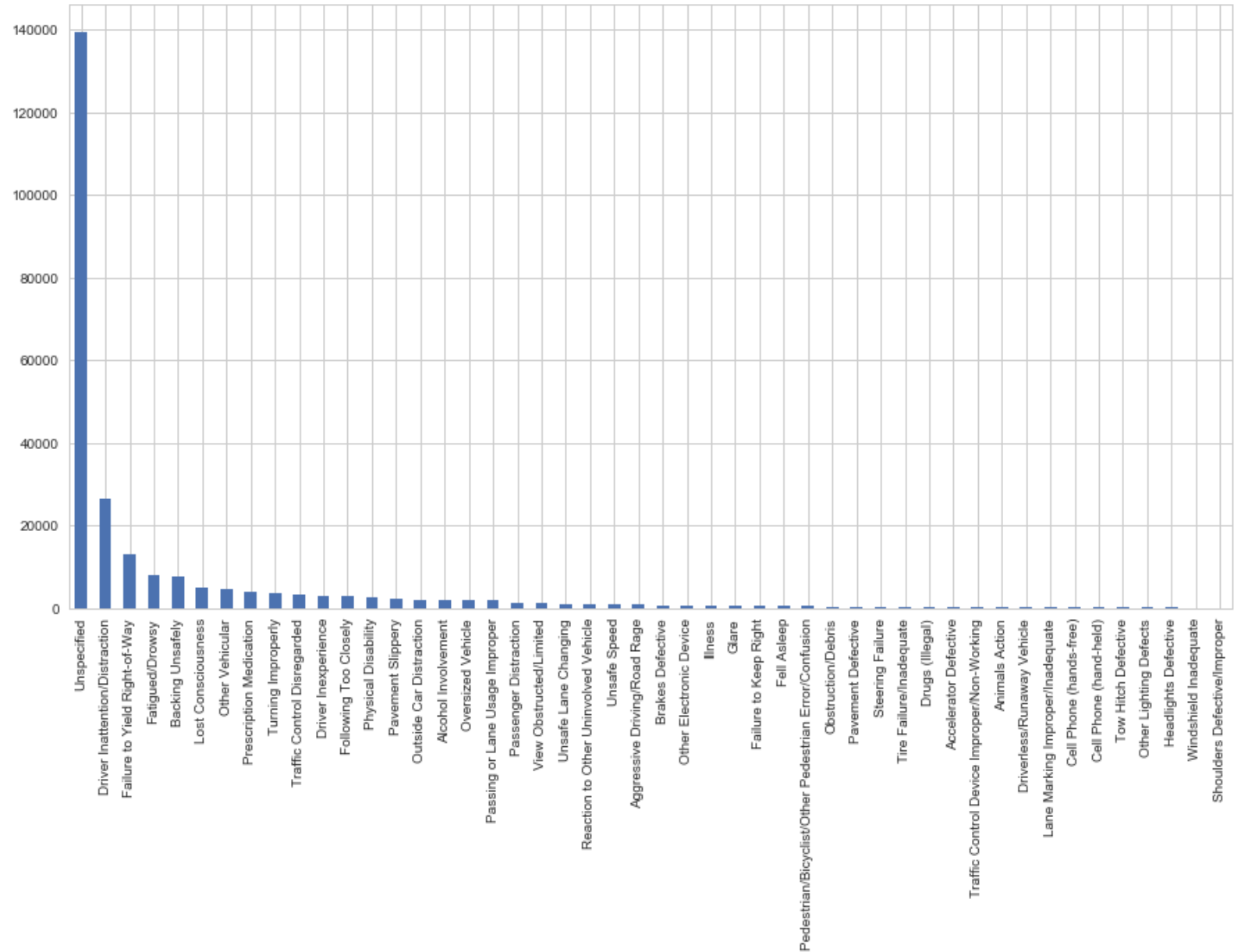
Shoulders Defective/Improper4

Name: contributing_factor_vehicle_1, dtype: int64

In [22]:

Out[22]:

<matplotlib.axes._subplots.AxesSubplot at 0x116531da0>



In [23]:

In [24]:

Out[24]:

	borough	contributing_factor_vehicle_1	contributing_factor_vehicle_2	contributing_fa
9				
	BROOKLYN	Driver Inattention/Distraction		Unspecified
35				
	BROOKLYN	Driver Inattention/Distraction		Unspecified
39				
	BROOKLYN	Oversized Vehicle		Unspecified
47				
	BROOKLYN	Driver Inexperience		Unspecified
52				
	BROOKLYN	Driver Inexperience		Unspecified
66				
	BROOKLYN	Following Too Closely		Unspecified
83				
	BROOKLYN	Prescription Medication		Unspecified
84				
	BROOKLYN	Fatigued/Drowsy		Unspecified
85				
	BROOKLYN	Driver Inattention/Distraction		Unspecified
86				
	BROOKLYN	Failure to Yield Right-of-Way		Unspecified
89				
	BROOKLYN	Backing Unsafely		Backing Unsafely
119				
	BROOKLYN	Other Vehicular		Unspecified
128				
	BROOKLYN	Aggressive Driving/Road Rage		NaN

147	BROOKLYN	Driver Inattention/Distracted	Driver Inattention/Distracted
153	BROOKLYN	Fatigued/Drowsy	Unspecified
165	BROOKLYN	Driver Inattention/Distracted	Unspecified
195	BROOKLYN	Alcohol Involvement	Unspecified
201	BROOKLYN	Fatigued/Drowsy	Unspecified
205	BROOKLYN	Driver Inexperience	Unspecified
224	BROOKLYN	Driver Inattention/Distracted	Unspecified
249	BROOKLYN	Traffic Control Disregarded	Unspecified
258	BROOKLYN	Traffic Control Disregarded	Unspecified
259	BROOKLYN	Physical Disability	Unspecified
263	BROOKLYN	Driver Inexperience	Unspecified
288	BROOKLYN	Driver Inattention/Distracted	Unspecified
312	BROOKLYN	Failure to Yield Right-of-Way	Unspecified

321

BROOKLYN

Fatigued/Drowsy

Fatigued/Drowsy

326

BROOKLYN

Other Vehicular

NaN

338

BROOKLYN

Lost Consciousness

Lost Consciousness

361

BROOKLYN

Fatigued/Drowsy

Unspecified

...

...

...

...

1088977

BROOKLYN

Other Vehicular

Other Vehicular

1088979

BROOKLYN

Driver Inattention/Distraction

Driver Inattention/Distraction

1088992

BROOKLYN

Other Vehicular

Driver Inattention/Distraction

1088997

BROOKLYN

Driver Inattention/Distraction

Unspecified

1089003

BROOKLYN

Lost Consciousness

Unspecified

1089011

BROOKLYN

Lost Consciousness

Unspecified

1089014

BROOKLYN

Backing Unsafely

Unspecified

1089051

BROOKLYN

Driver Inattention/Distraction

Driver Inattention/Distraction

1089052

BROOKLYN

Physical Disability

Failure to Yield Right-of-Way

1089063	BROOKLYN	Driver Inattention/Distraction	Unspecified
1089071	BROOKLYN	Failure to Yield Right-of-Way	Unspecified
1089073	BROOKLYN	Fatigued/Drowsy	Fatigued/Drowsy
1089109	BROOKLYN	Other Vehicular	NaN
1089116	BROOKLYN	Traffic Control Disregarded	Unspecified
1089126	BROOKLYN	Driver Inattention/Distraction	Unspecified
1089138	BROOKLYN	Other Vehicular	NaN
1089140	BROOKLYN	Lost Consciousness	Unspecified
1089141	BROOKLYN	Failure to Yield Right-of-Way	NaN
1089156	BROOKLYN	Lost Consciousness	Lost Consciousness
1089158	BROOKLYN	Fatigued/Drowsy	Unspecified
1089168	BROOKLYN	Fatigued/Drowsy	Unspecified
1089170	BROOKLYN	Failure to Yield Right-of-Way	NaN
1089172			

BROOKLYN	Prescription Medication	Lost Consciousness
----------	-------------------------	--------------------

1089192

BROOKLYN	Physical Disability	Physical Disability
----------	---------------------	---------------------

1089193

BROOKLYN	Driver Inattention/Distraction	Fatigued/Drowsy
----------	--------------------------------	-----------------

1089201

BROOKLYN	Failure to Yield Right-of-Way	Failure to Yield Right-of-Way
----------	-------------------------------	-------------------------------

1089229

BROOKLYN	Driver Inattention/Distraction	NaN
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1089243

BROOKLYN	Other Vehicular	Unspecified
----------	-----------------	-------------

1089246

BROOKLYN	Driver Inattention/Distraction	Unspecified
----------	--------------------------------	-------------

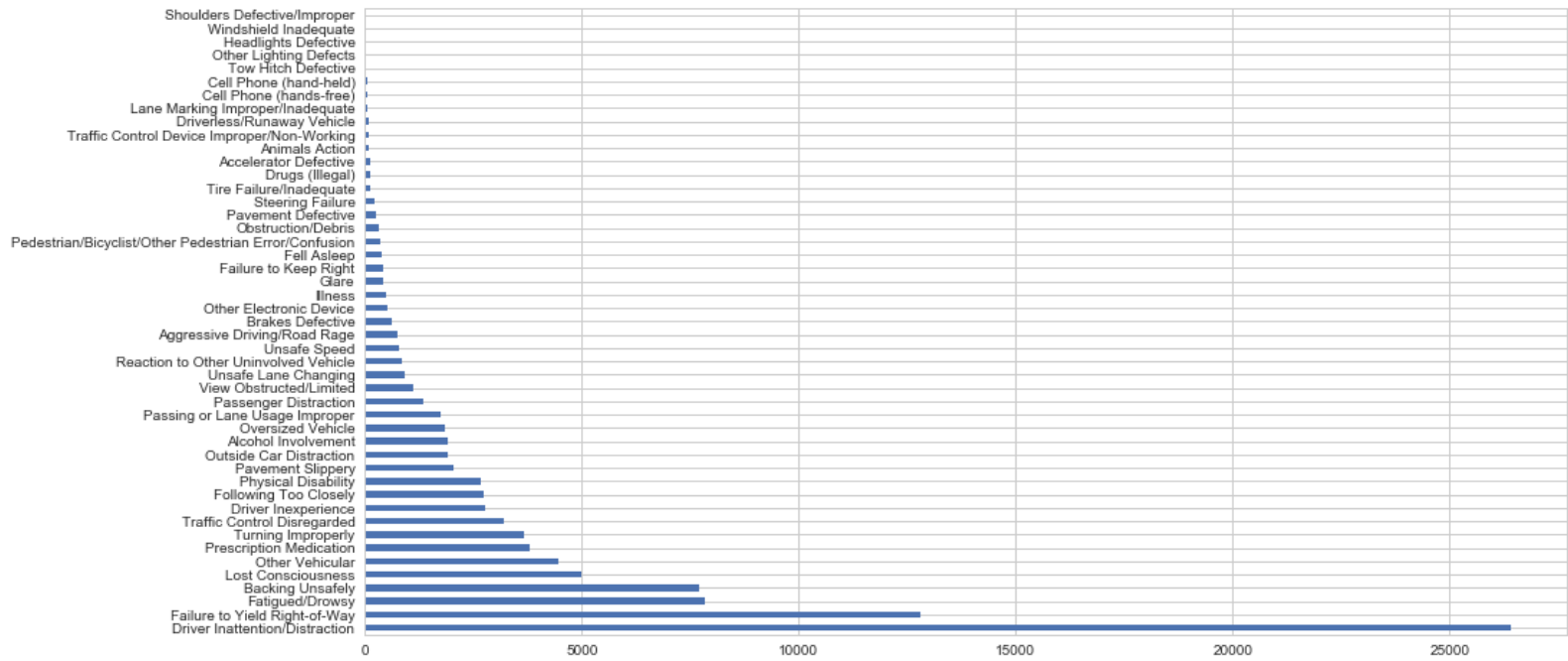
1089264

BROOKLYN	Driver Inattention/Distraction	Unspecified
----------	--------------------------------	-------------

In [25]:

Out[25]:

<matplotlib.axes._subplots.AxesSubplot at 0x116a70c50>



In [26]:

Out[26]:

Driver Inattention/Distraction	26398
Failure to Yield Right-of-Way	12800
Fatigued/Drowsy	7844
Backing Unsafely	7713
Lost Consciousness	4994
Other Vehicular	4464
Prescription Medication	3786
Turning Improperly	3661
Traffic Control Disregarded	3210
Driver Inexperience	2754
Following Too Closely	2724
Physical Disability	2652
Pavement Slippery	2043
Outside Car Distraction	1908
Alcohol Involvement	1900
Oversized Vehicle	1850
Passing or Lane Usage Improper	1730
Passenger Distraction	1337
View Obstructed/Limited	1117
Unsafe Lane Changing	925
Reaction to Other Uninvolved Vehicle	838
Unsafe Speed	772
Aggressive Driving/Road Rage	734

Brakes Defective	621
Other Electronic Device	515
Illness	480
Glare	428
Failure to Keep Right	425
Fell Asleep	393
Pedestrian/Bicyclist/Other Pedestrian Error/Confusion	356
Obstruction/Debris	319
Pavement Defective	244
Steering Failure	223
Tire Failure/Inadequate	120
Drugs (Illegal)	114
Accelerator Defective	110
Animals Action	100
Traffic Control Device Improper/Non-Working	100
Driverless/Runaway Vehicle	92
Lane Marking Improper/Inadequate	54
Cell Phone (hands-free)	52
Cell Phone (hand-held)	35
Tow Hitch Defective	22
Other Lighting Defects	21
Headlights Defective	20
Windshield Inadequate	14
Shoulders Defective/Improper	4
Name: contributing_factor_vehicle_1, dtype: int64	

In [27]:

In [28]:

In [29]:

Out[29]:

- 1 EMPIRE BOULEVARD
- 3 WILSON AVENUE
- 4 EAST 17 STREET
- 7 DREW STREET
- 9 NEPTUNE AVENUE
- 11 FLATLANDS 2 STREET
- 18 EAST NEW YORK AVENUE
- 31 WINTHROP STREET
- 35 EAST 29 STREET
- 37 PENNSYLVANIA AVENUE
- 39 STATE STREET
- 43 WEIRFIELD STREET
- 45 LINDEN STREET

47	ROEBLING STREET
52	74 STREET
54	PENNSYLVANIA AVENUE
60	LINDEN BOULEVARD
64	VAN SINDEREN AVENUE
66	WHITNEY AVENUE
68	MC DONALD AVENUE
69	ATLANTIC AVENUE
76	50 STREET
83	ATLANTIC AVENUE
84	PARKSIDE AVENUE
86	BAY PARKWAY
87	77 STREET
104	FLATLANDS AVENUE
106	8 AVENUE
116	50 STREET
119	PROSPECT PLACE

...

1089145	CONEY ISLAND AVENUE
1089146	FLATLANDS AVENUE
1089147	EASTERN PARKWAY
1089154	HOYT STREET
1089156	GREENPOINT AVENUE
1089158	3 AVENUE
1089161	HERKIMER STREET
1089162	EASTERN PARKWAY
1089168	THROOP AVENUE
1089169	WASHINGTON AVENUE
1089170	OCEAN AVENUE
1089171	NOSTRAND AVENUE
1089172	CLARKSON AVENUE
1089177	KINGS HIGHWAY
1089179	PARADE PLACE
1089190	PROSPECT PARK SOUTHWEST
1089192	AVENUE P
1089193	SMITH STREET
1089201	EMMONS AVENUE
1089211	PENNSYLVANIA AVENUE
1089220	LENOX ROAD
1089229	FARRAGUT ROAD
1089236	4 AVENUE
1089238	QUENTIN ROAD
1089242	LEGION STREET
1089243	SAINT JOHNS PLACE
1089246	RALPH AVENUE
1089249	CATON AVENUE
1089257	EAST 3 STREET
1089264	ROCKAWAY AVENUE

Name: on_street_name, Length: 220984, dtype: object

In [30]:

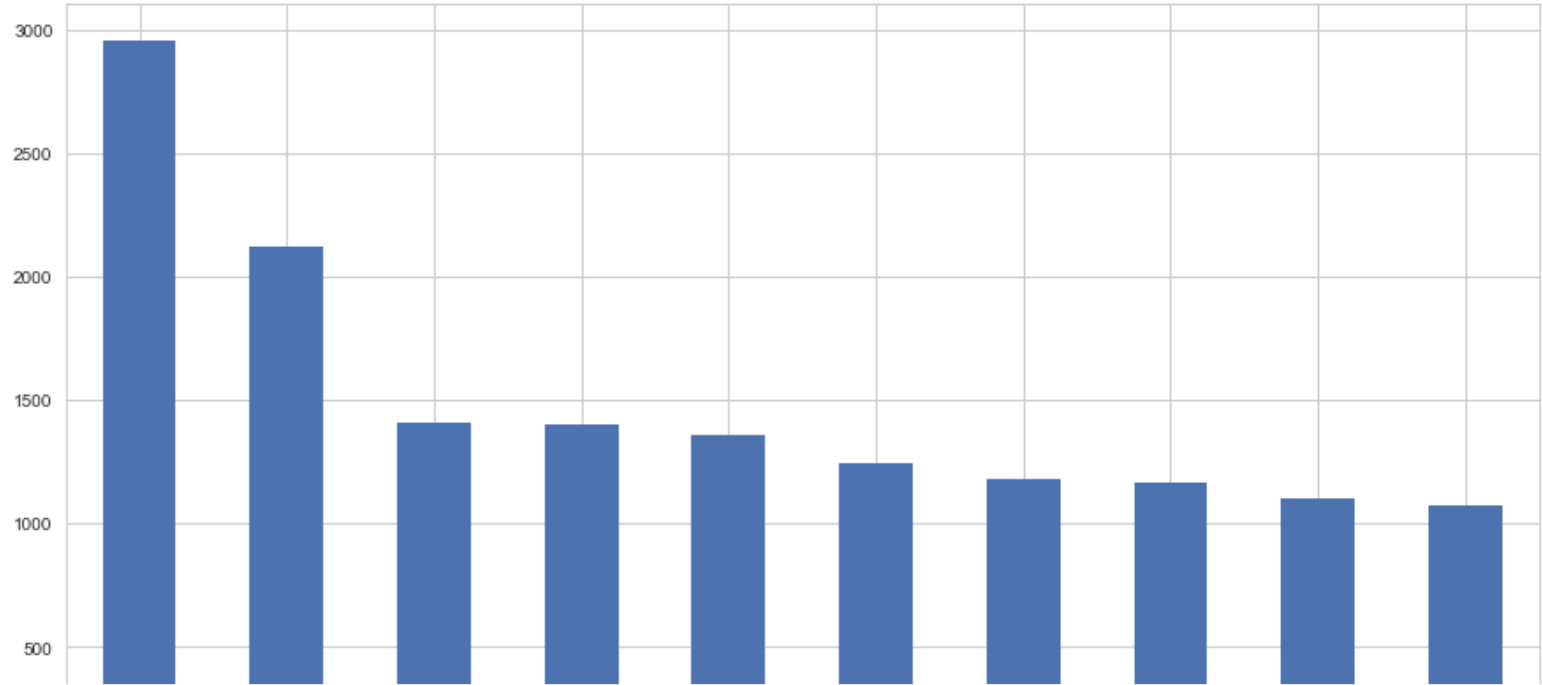
Out[30]:

```
Index(['ATLANTIC AVENUE', 'FLATBUSH AVENUE', 'BEDFORD AVENUE', 'OCEAN PARKWAY',  
      'NOSTRAND AVENUE', 'CONEY ISLAND AVENUE', '3 AVENUE', 'UTICA AVENUE',  
      '4 AVENUE', 'EASTERN PARKWAY'],  
      dtype='object')
```

In [177]:

Out[177]:

<matplotlib.axes._subplots.AxesSubplot at 0x12cf8ea90>



In [32]:

Out[32]:

on_street_name	contributing_factor_vehicle_1
3 AVENUE	Driver Inattention/Distraction
245	Failure to Yield Right-of-Way
123	Fatigued/Drowsy
113	Prescription Medication
98	Turning Improperly
82	

	Lost Consciousness
69	
	Backing Unsafely
62	
	Physical Disability
60	
	Other Vehicular
40	
	Driver Inexperience
34	
	Traffic Control Disregarded
33	
	Following Too Closely
24	
	Oversized Vehicle
23	
	Pavement Slippery
21	
	Alcohol Involvement
14	
	Outside Car Distraction
14	
	Passing or Lane Usage Improper
14	
	Unsafe Lane Changing
13	
	Aggressive Driving/Road Rage
11	
	Obstruction/Debris
10	
	Traffic Control Device Improper/Non-Working
10	
	View Obstructed/Limited
10	
	Failure to Keep Right
8	
	Passenger Distraction
7	
	Unsafe Speed
7	
	Fell Asleep
5	
	Pavement Defective
4	
	Reaction to Other Uninvolved Vehicle
4	
	Brakes Defective
3	
	Illness
3	
...	
UTICA AVENUE	Lost Consciousness

62	Turning Improperly
62	Traffic Control Disregarded
47	Backing Unsafely
46	Driver Inexperience
34	Physical Disability
29	Alcohol Involvement
28	Outside Car Distraction
25	Following Too Closely
24	Passenger Distraction
21	Unsafe Lane Changing
18	Aggressive Driving/Road Rage
14	Brakes Defective
11	Pavement Slippery
11	Passing or Lane Usage Improper
10	View Obstructed/Limited
9	Illness
8	Reaction to Other Uninvolved Vehicle
7	Fell Asleep
6	Failure to Keep Right
5	Glare
5	Obstruction/Debris
5	Other Electronic Device
4	Unsafe Speed
4	Lane Marking Improper/Inadequate
3	Pedestrian/Bicyclist/Other Pedestrian Error/Confusion
3	Steering Failure
2	

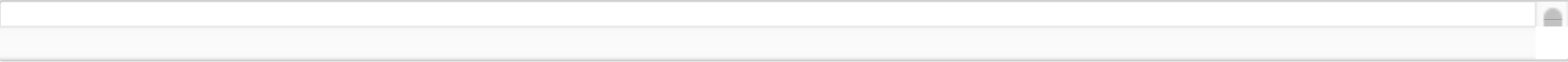
Tire Failure/Inadequate

Animals Action

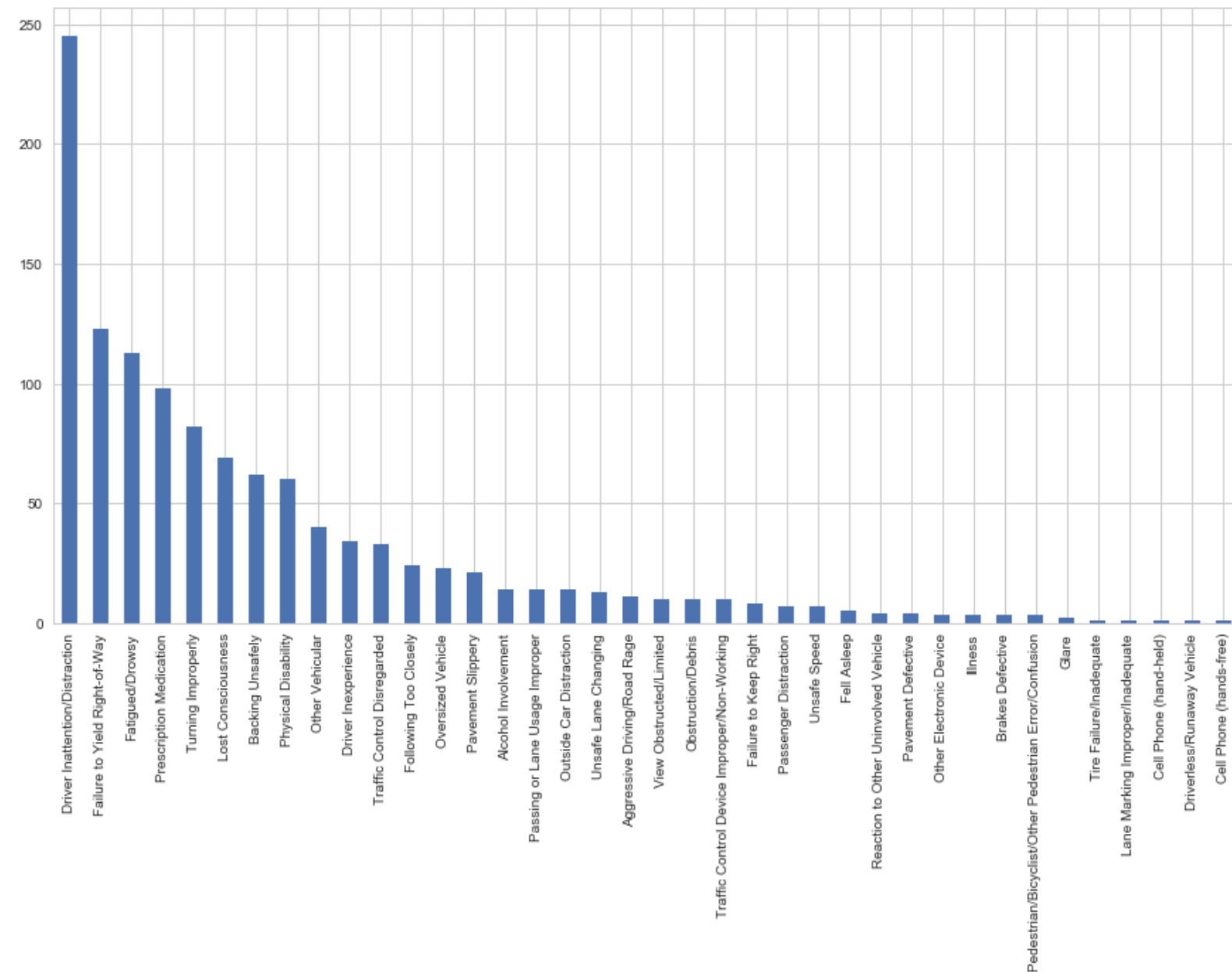
Oversized Vehicle

Name: contributing_factor_vehicle_1, Length: 380, dtype: int64

In [33]:

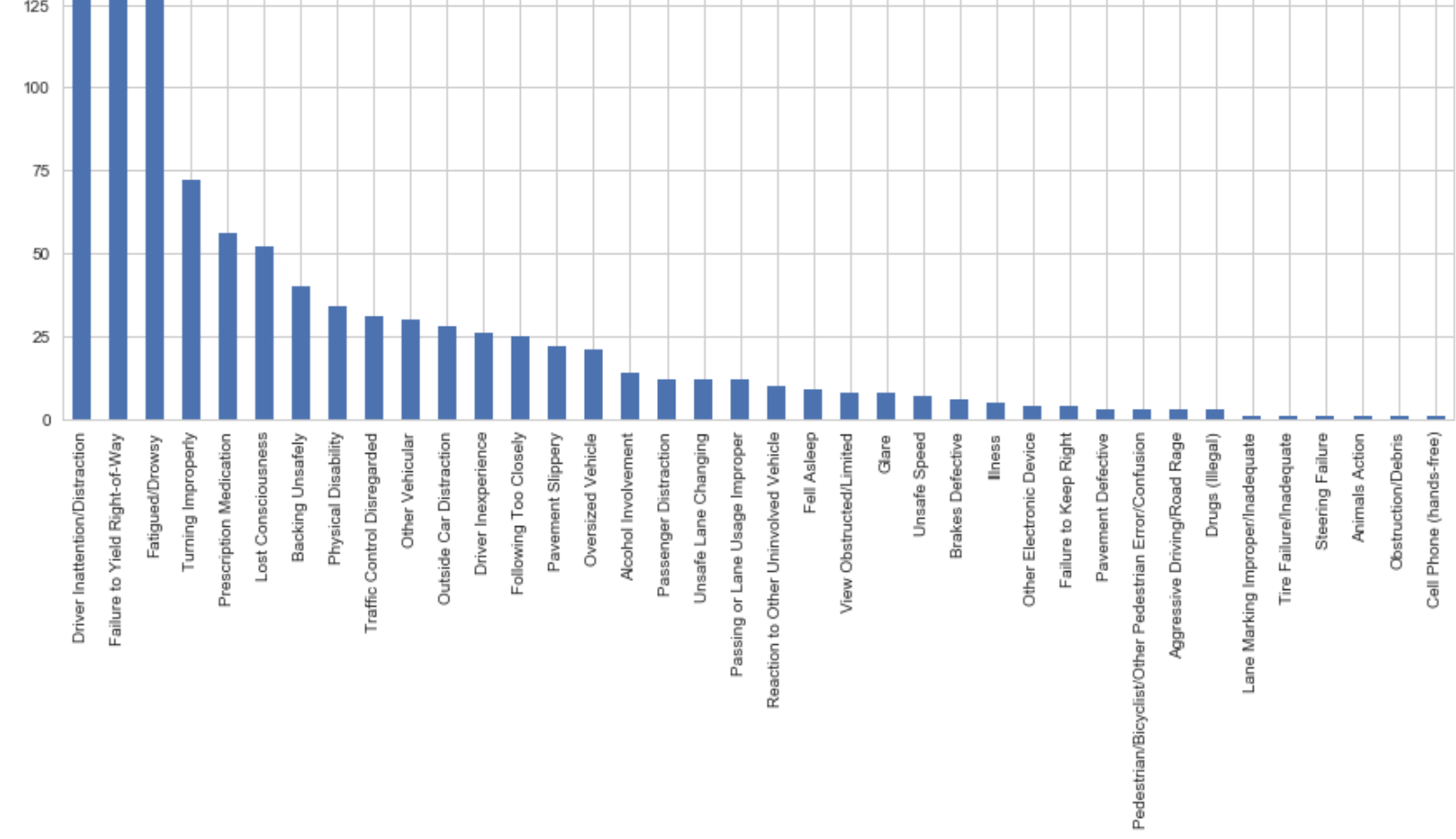


3 AVENUE

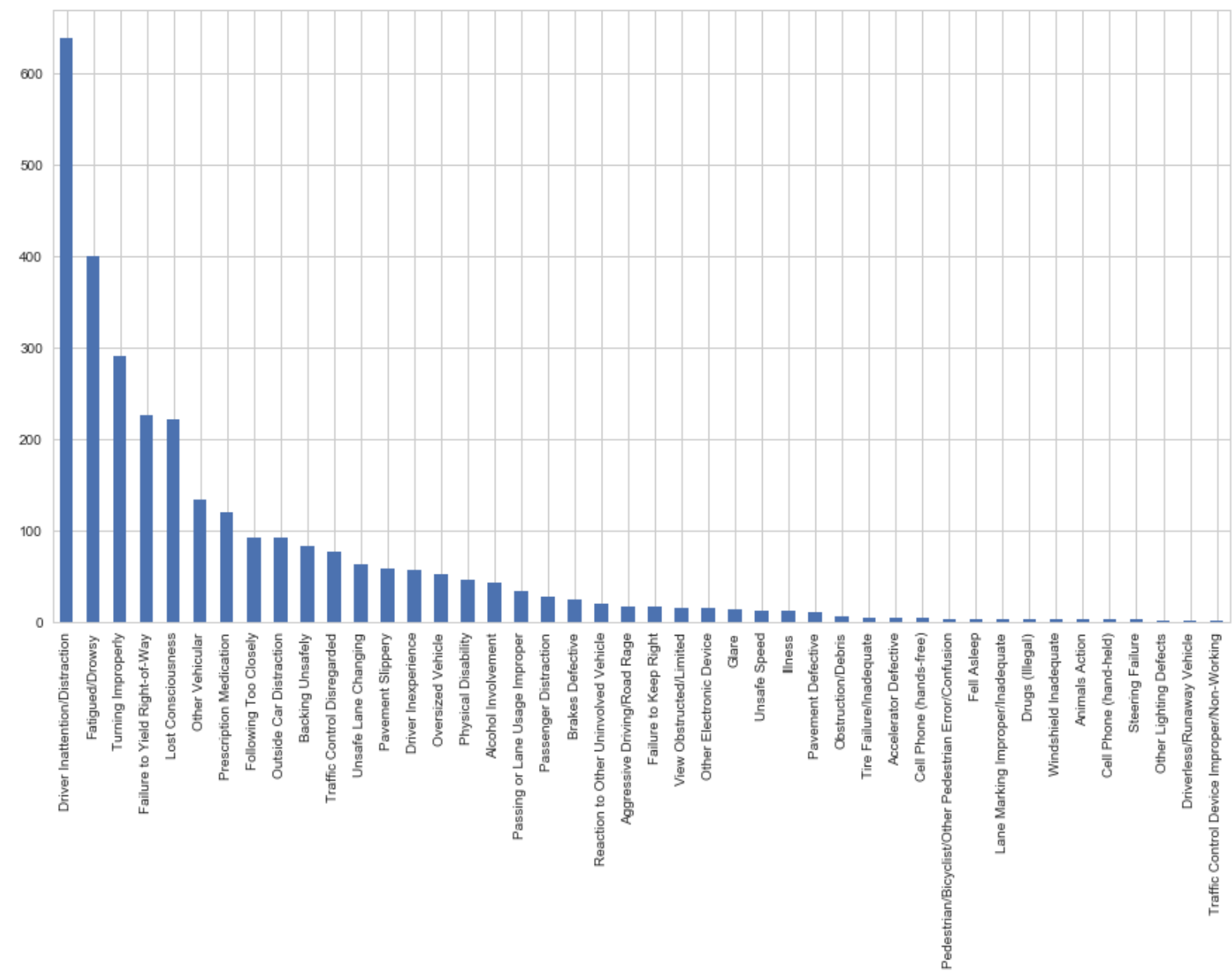


4 AVENUE

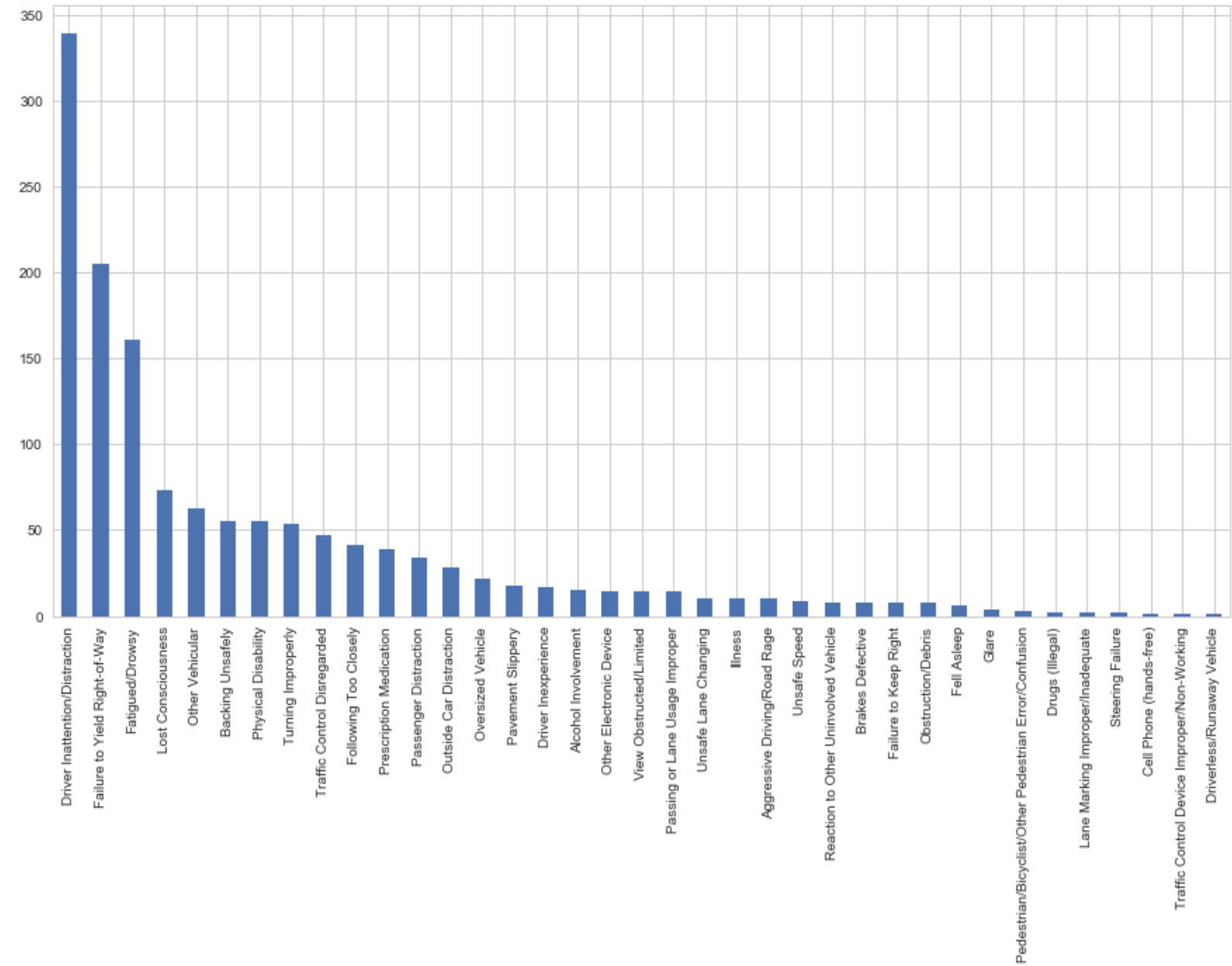




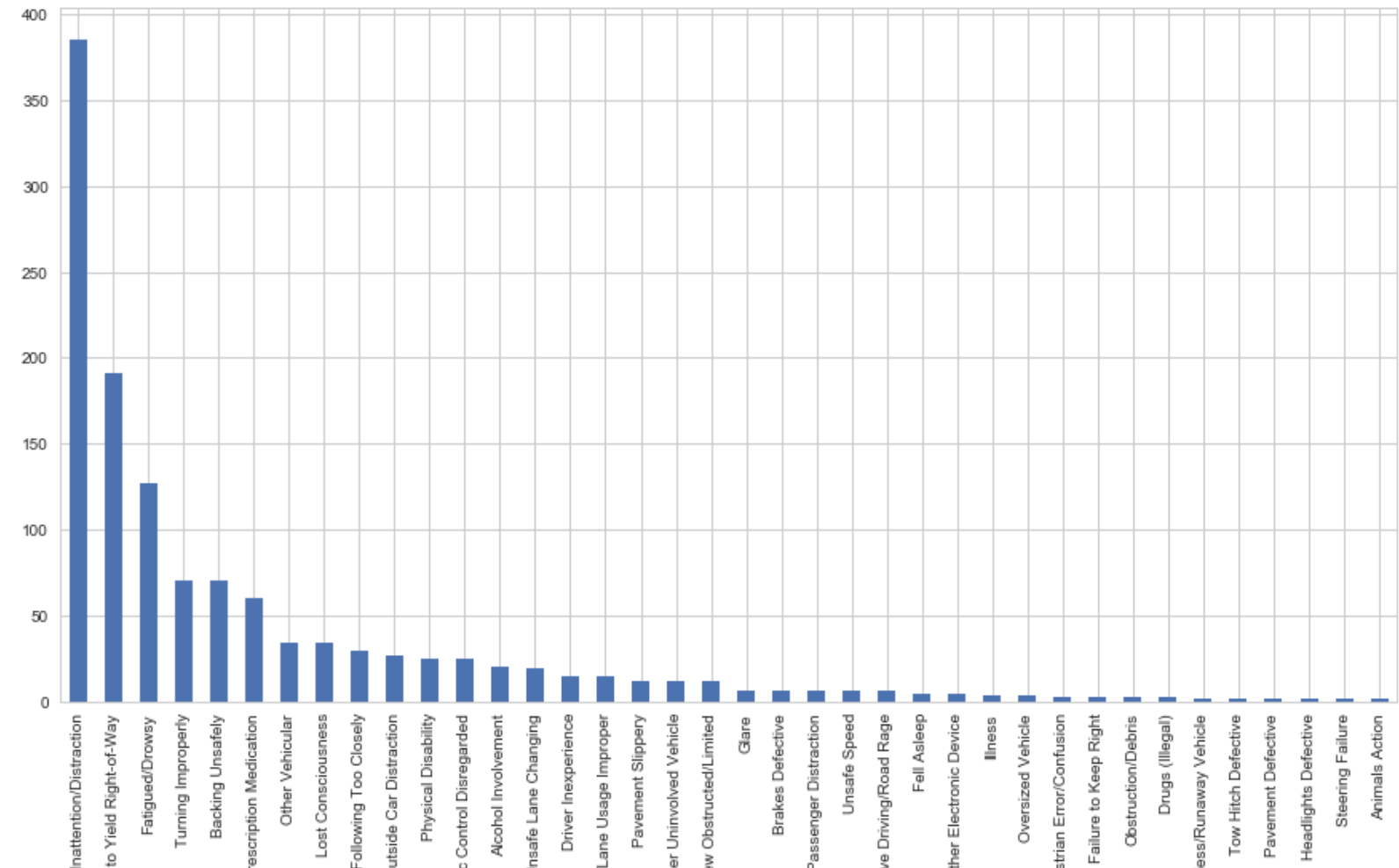
ATLANTIC AVENUE



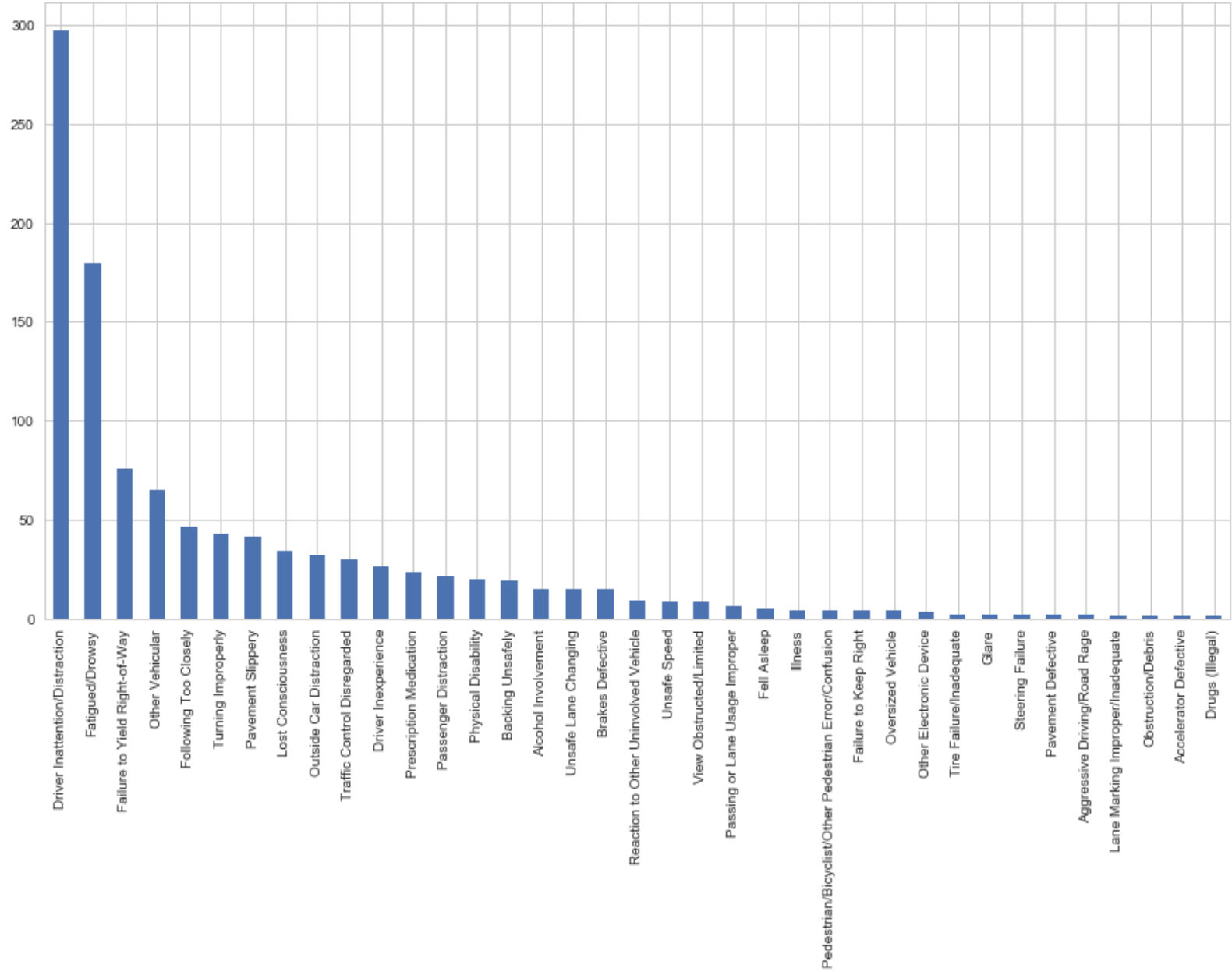
BEDFORD AVENUE



CONEY ISLAND AVENUE



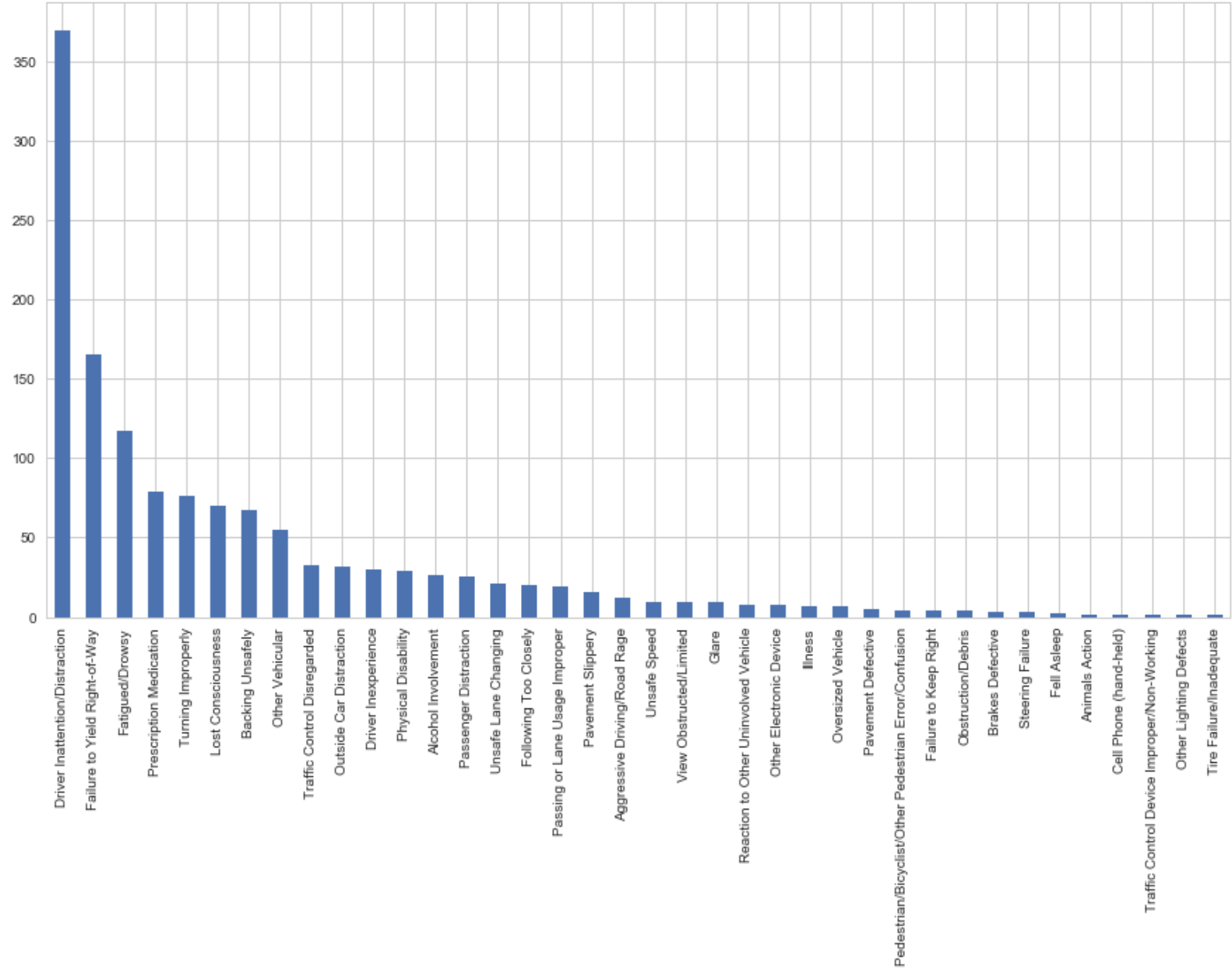
EASTERN PARKWAY



FLATBUSH AVENUE

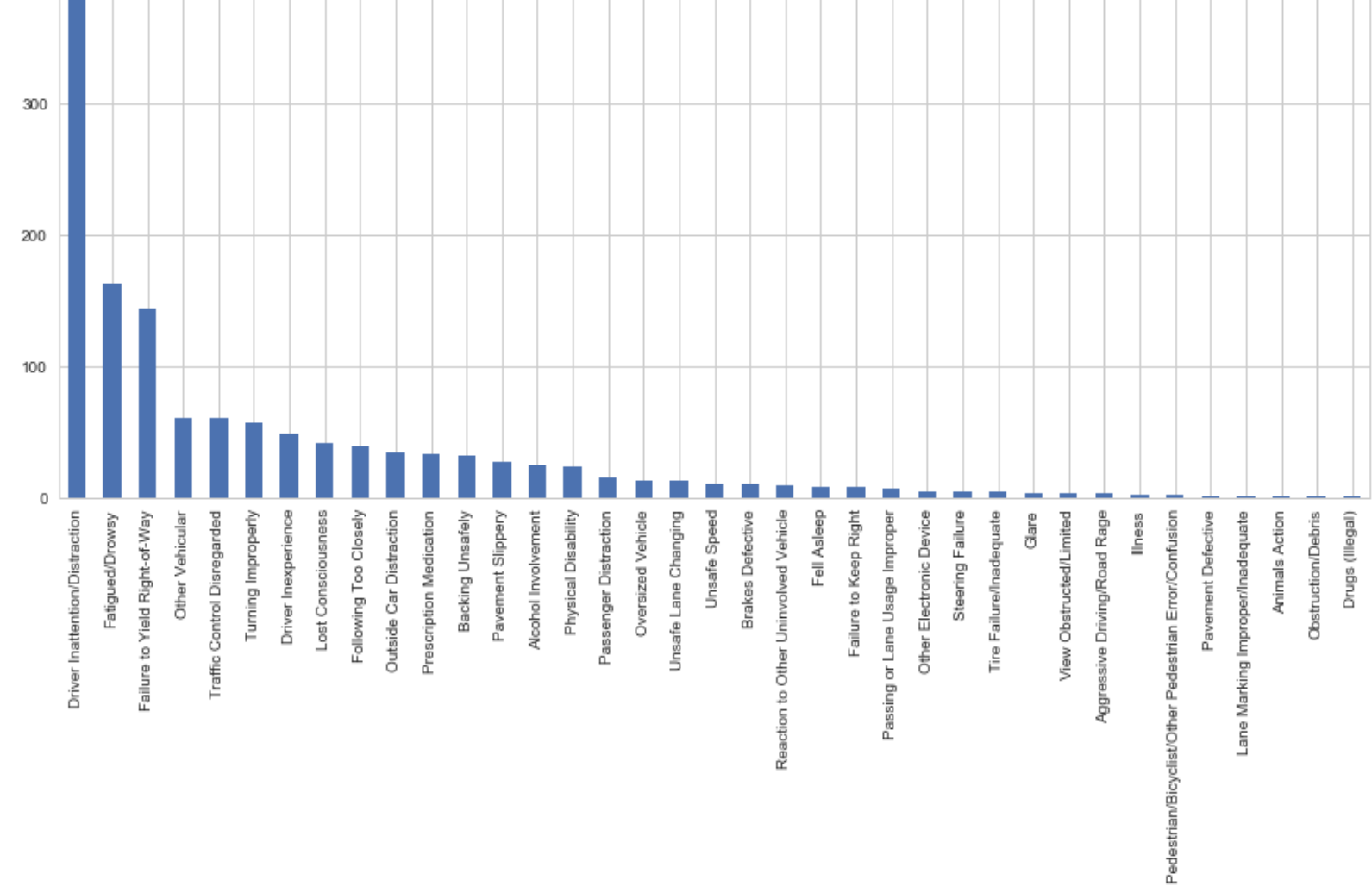


NOSTRAND AVENUE

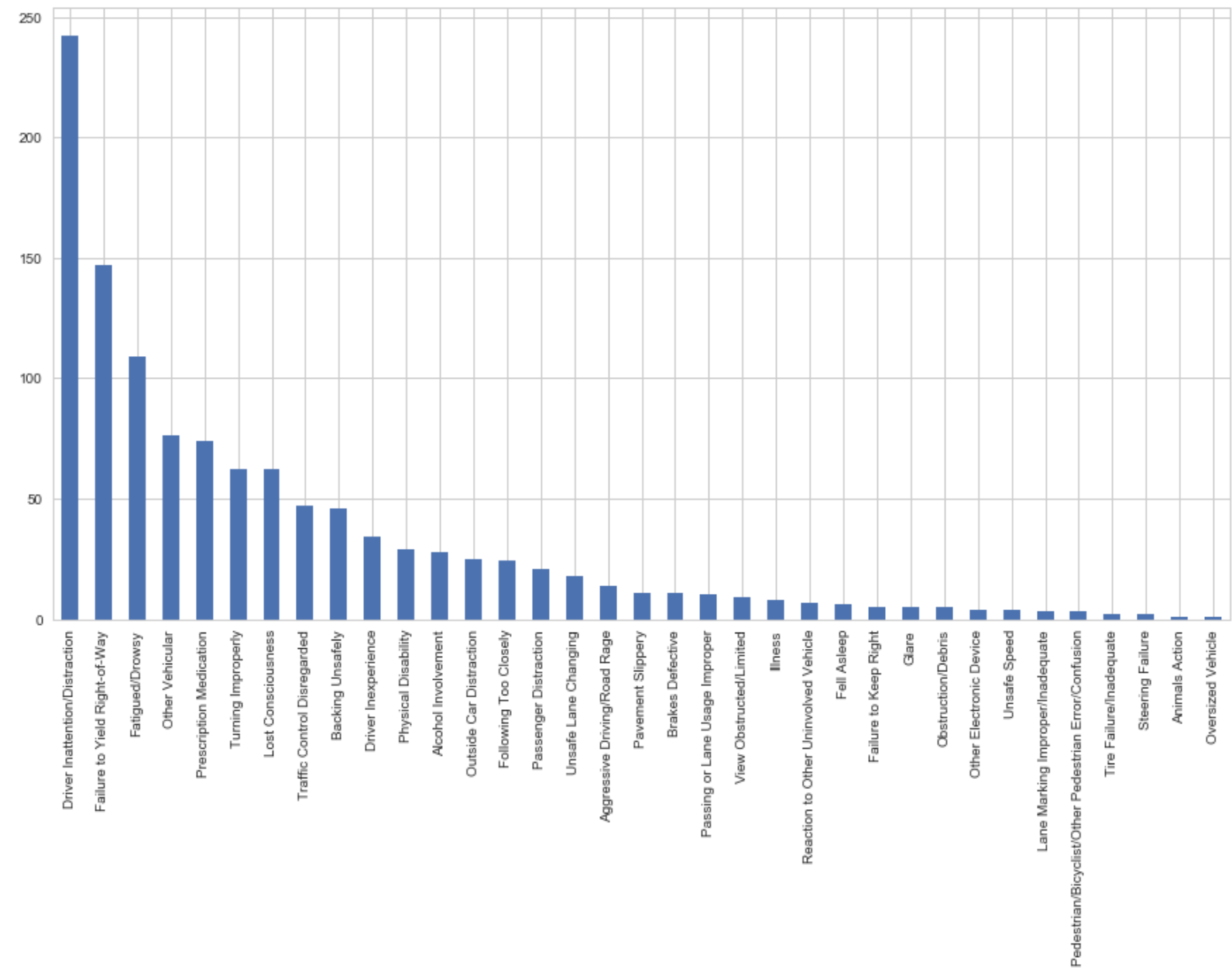


OCEAN PARKWAY



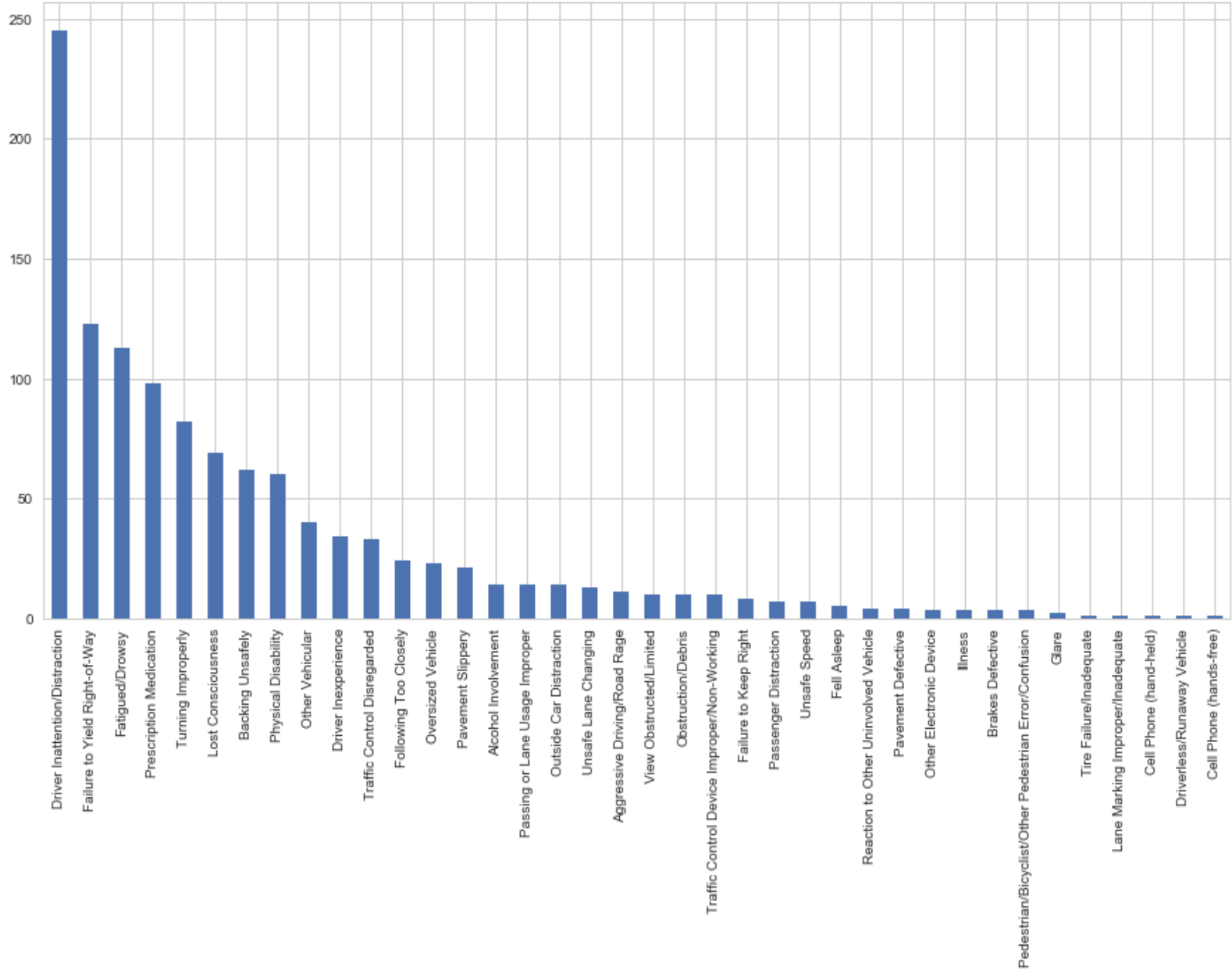


UTICA AVENUE

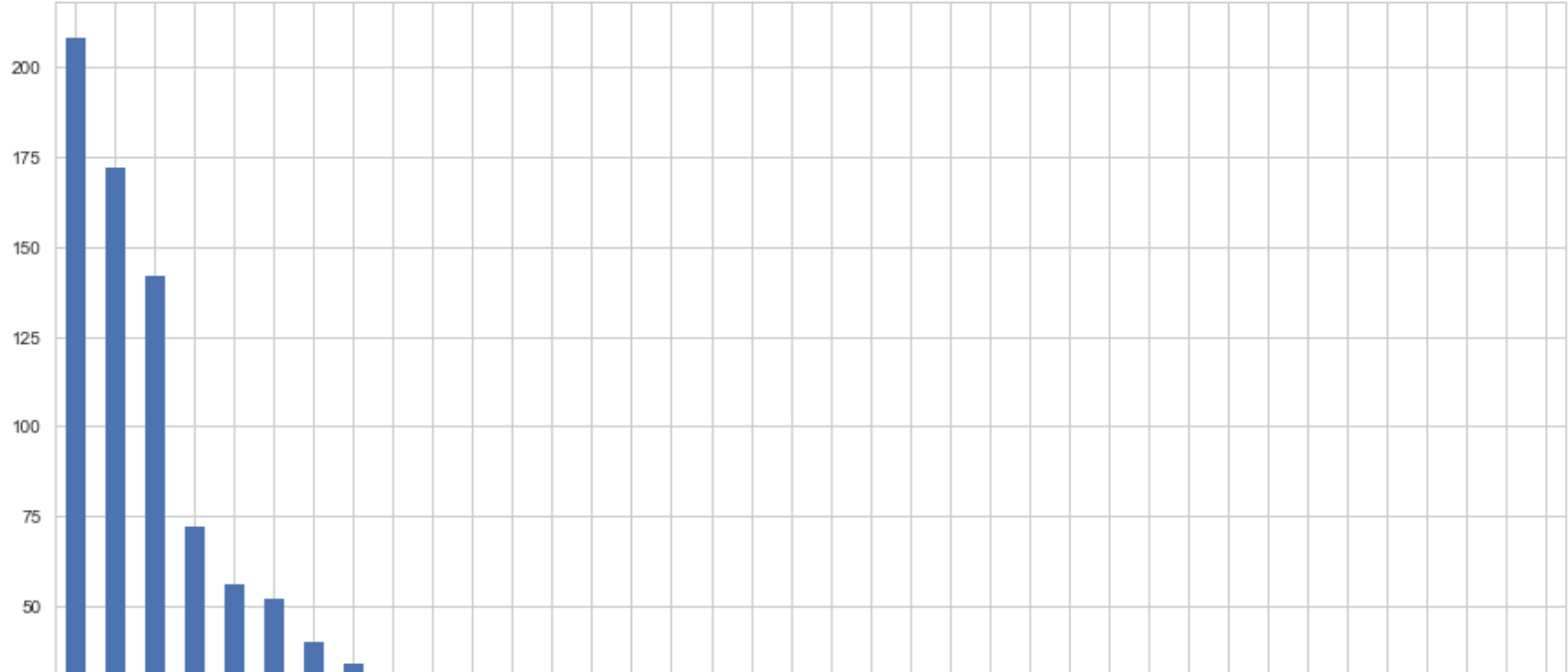


In [34]:

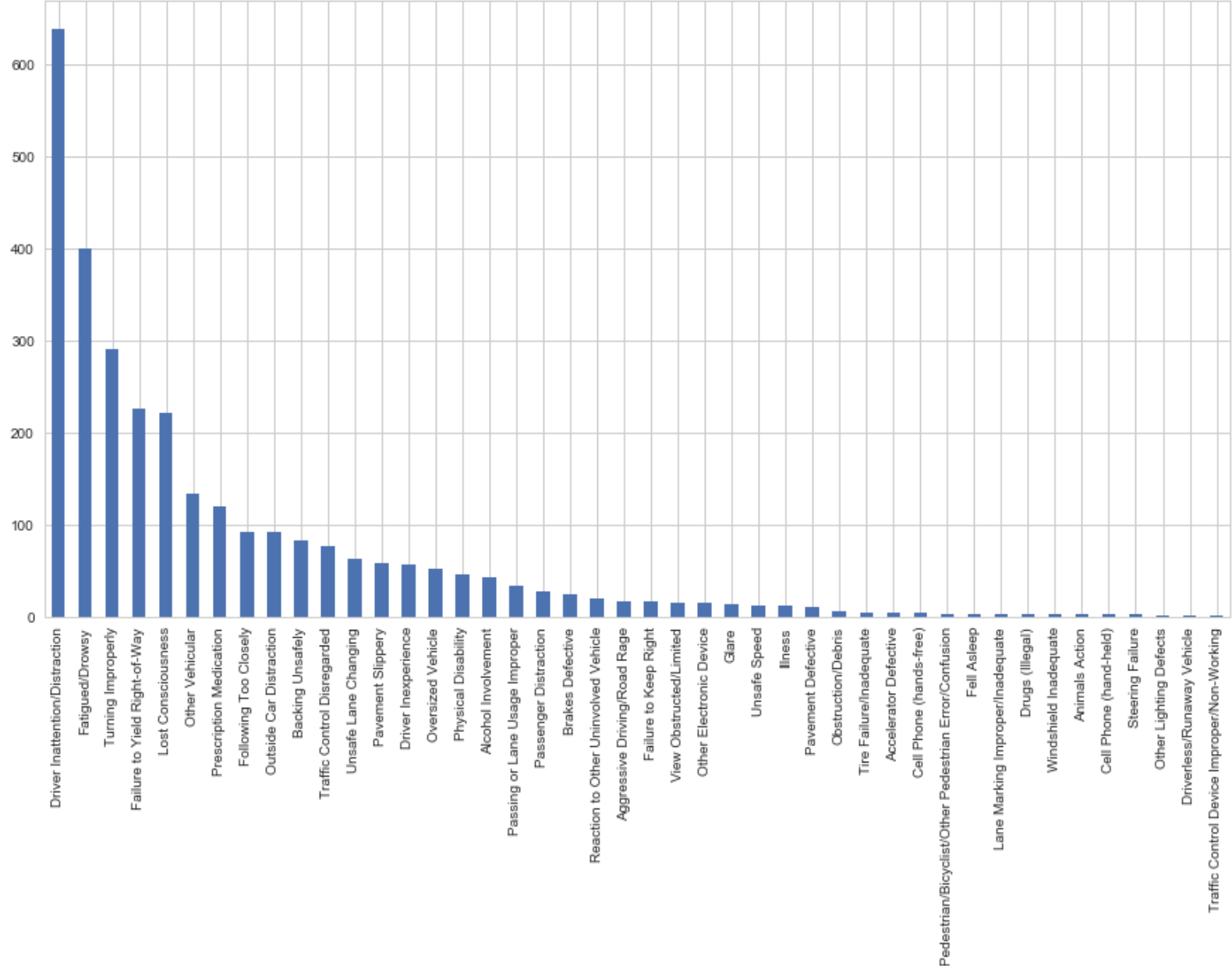
3 AVENUE



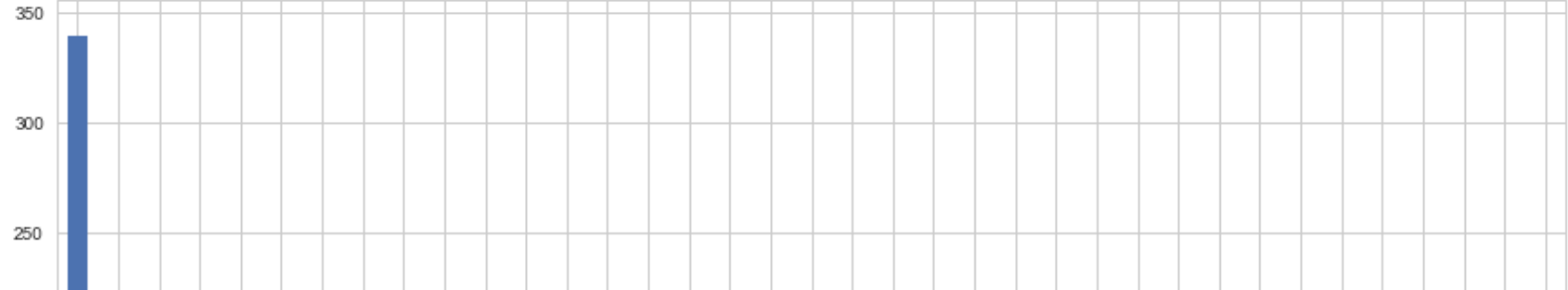
4 AVENUE

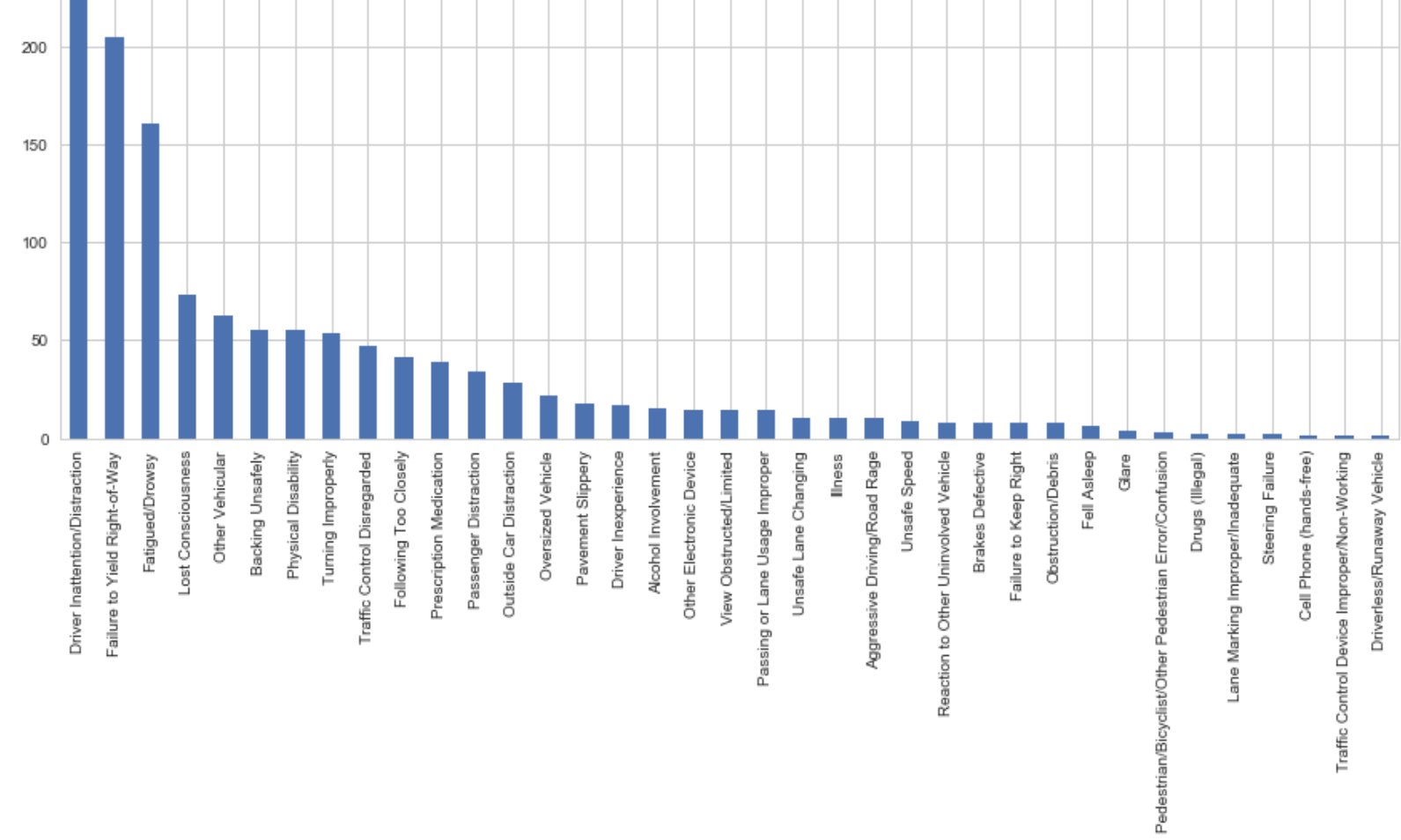


ATLANTIC AVENUE

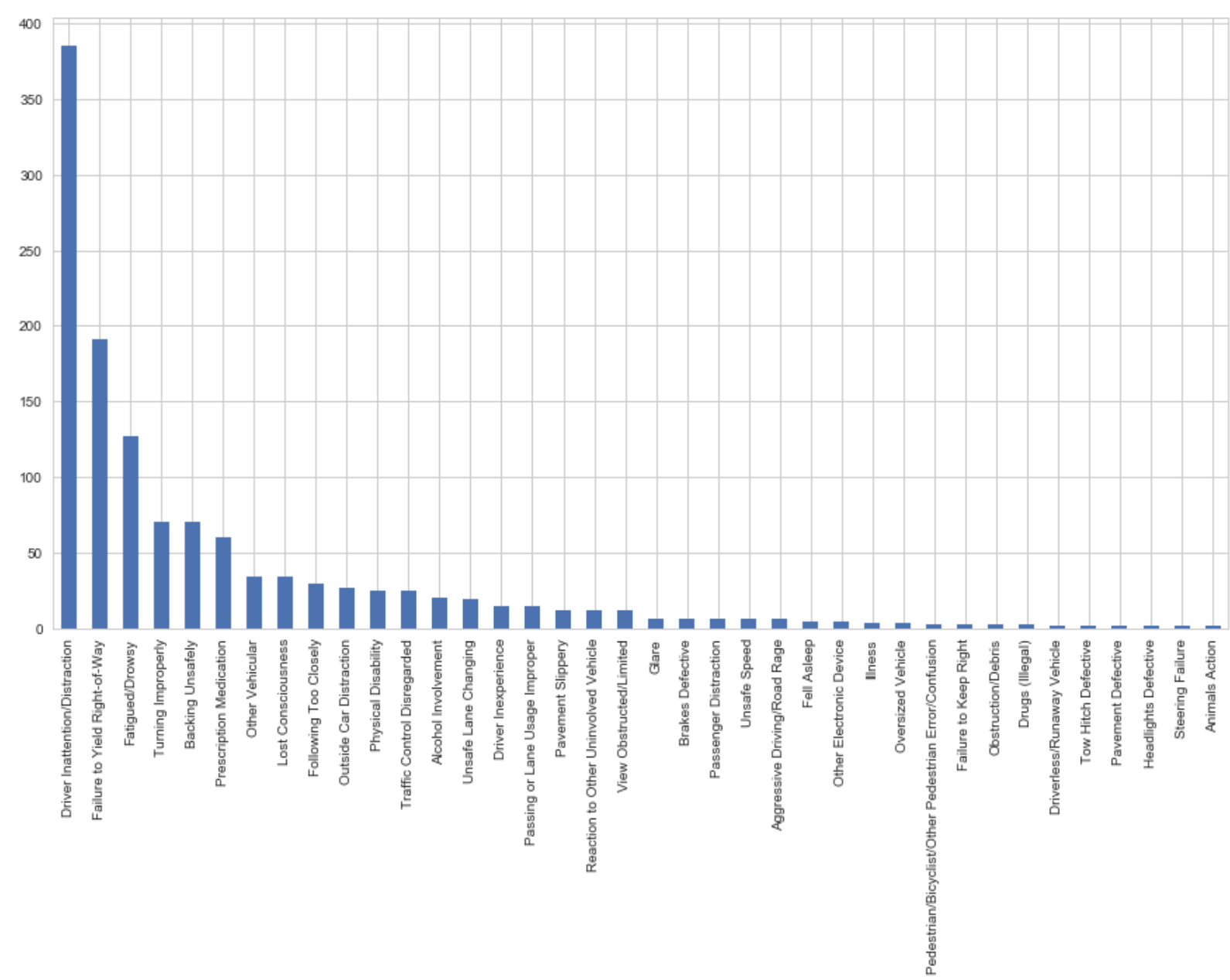


BEDFORD AVENUE

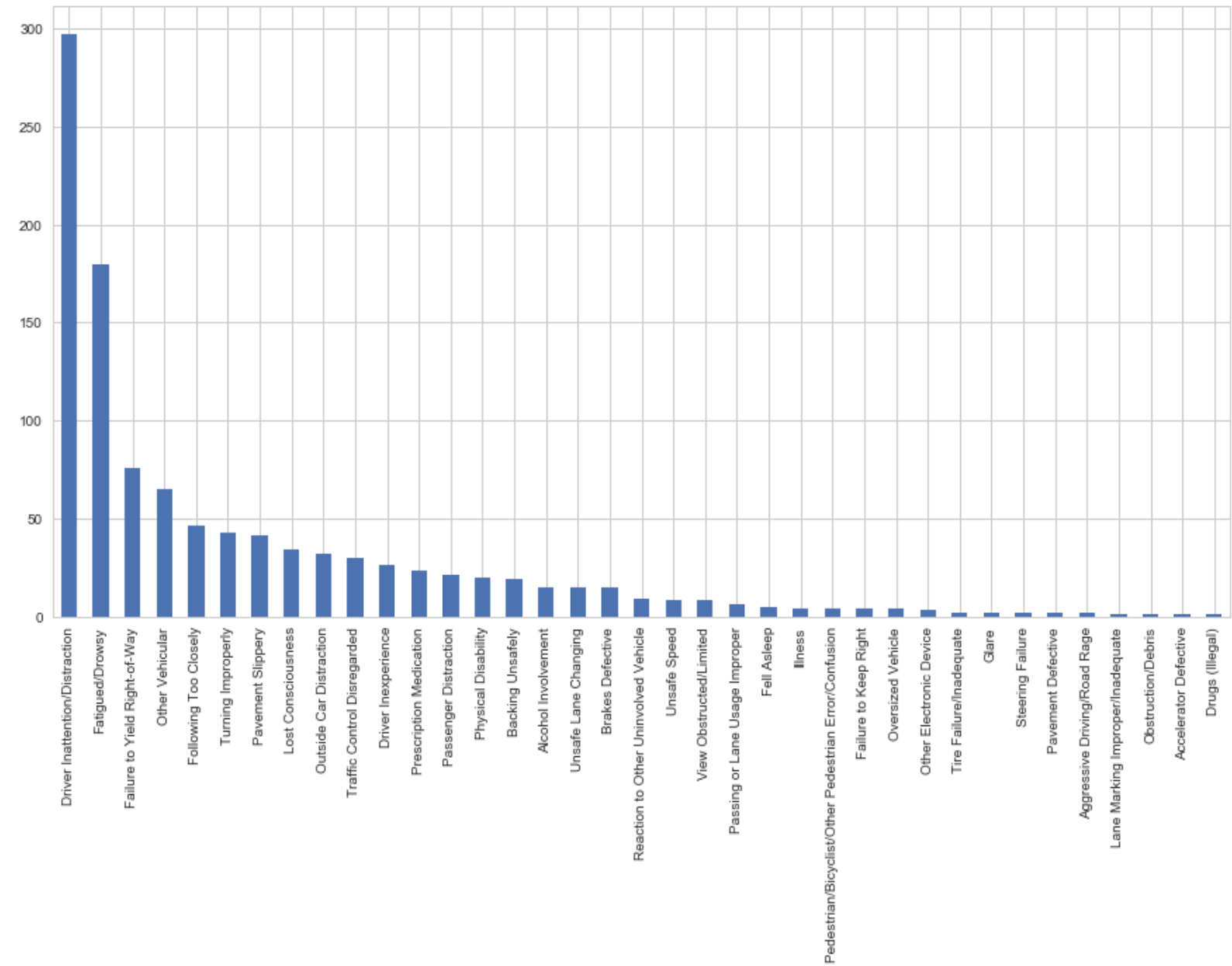




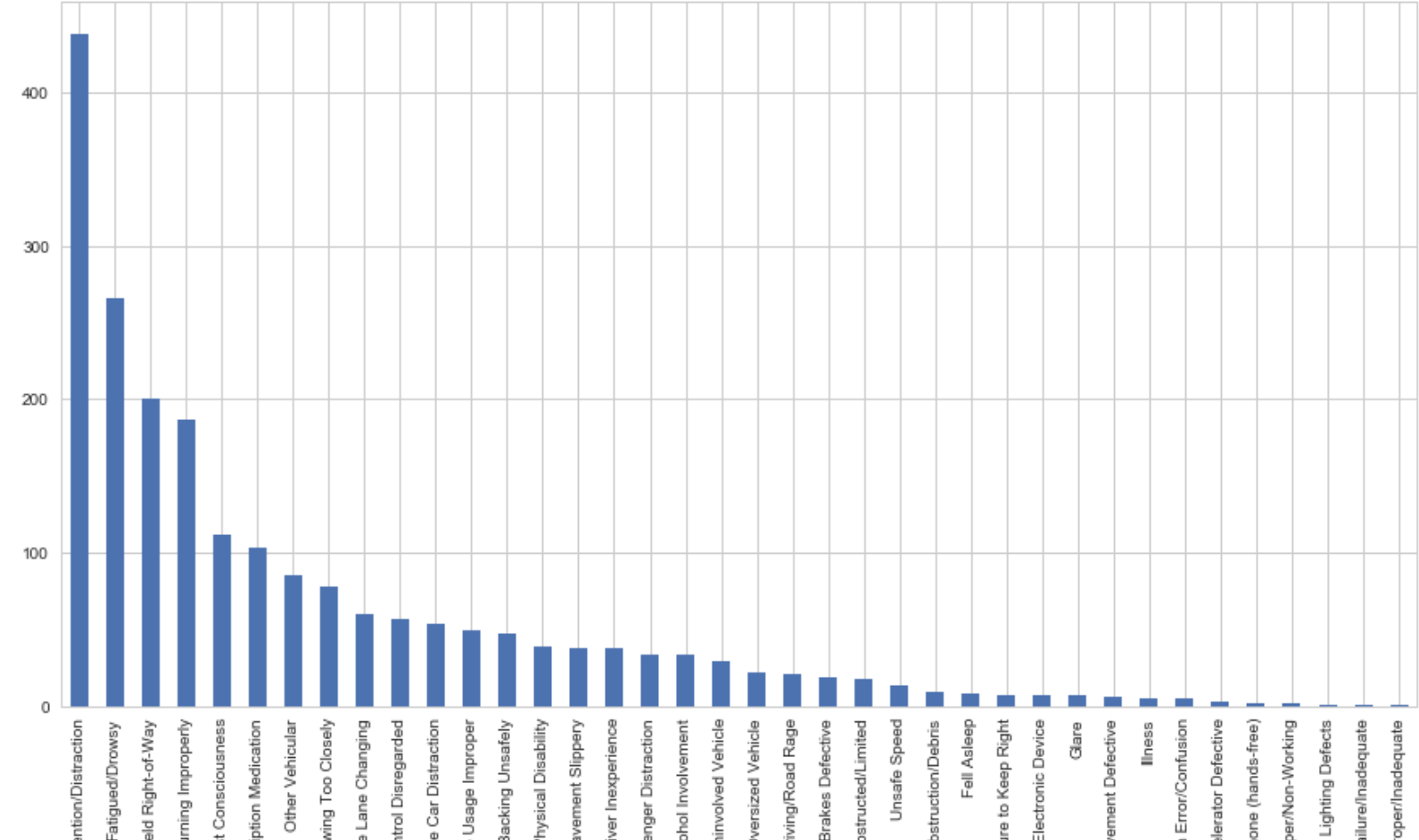
CONEY ISLAND AVENUE



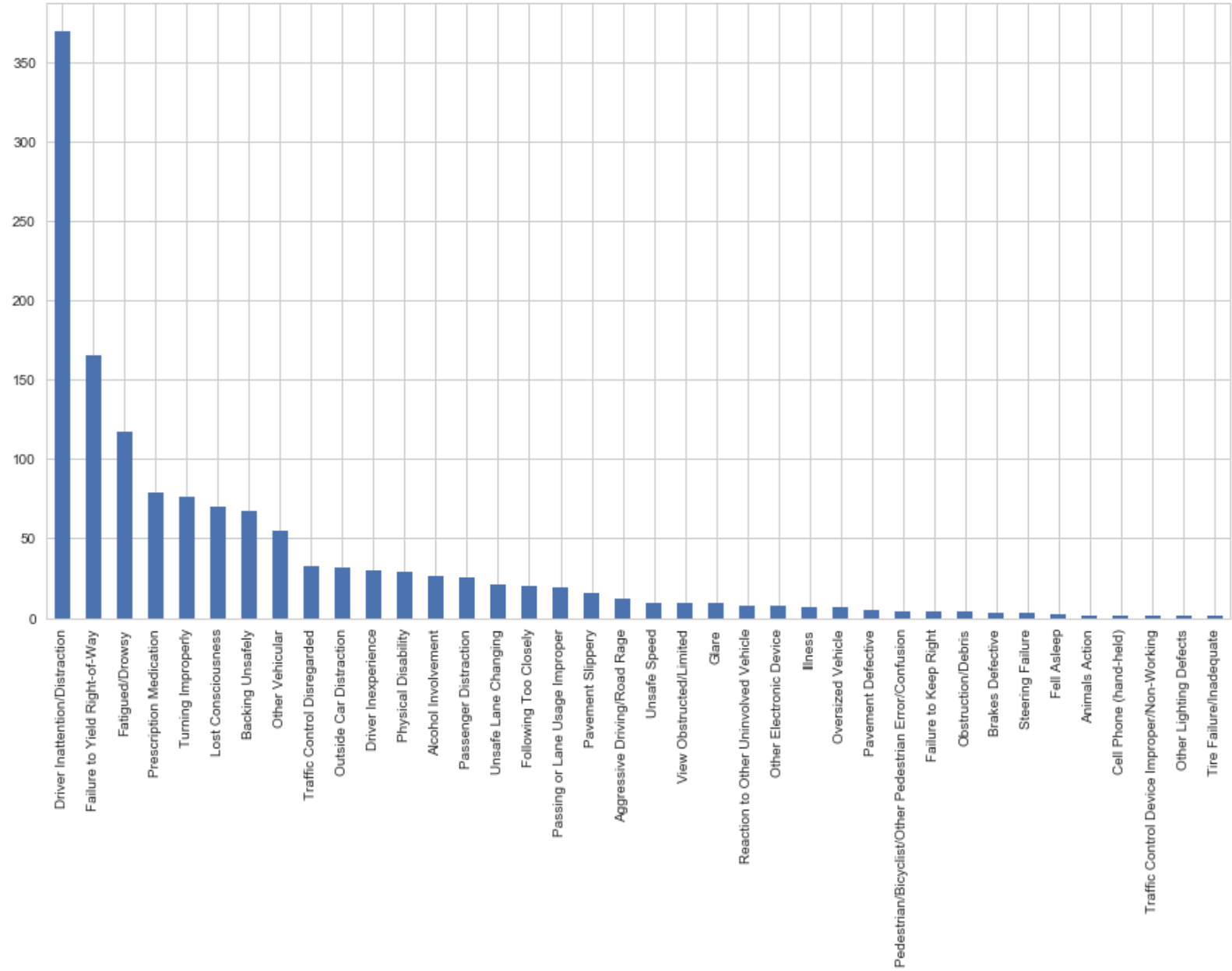
EASTERN PARKWAY



FLATBUSH AVENUE

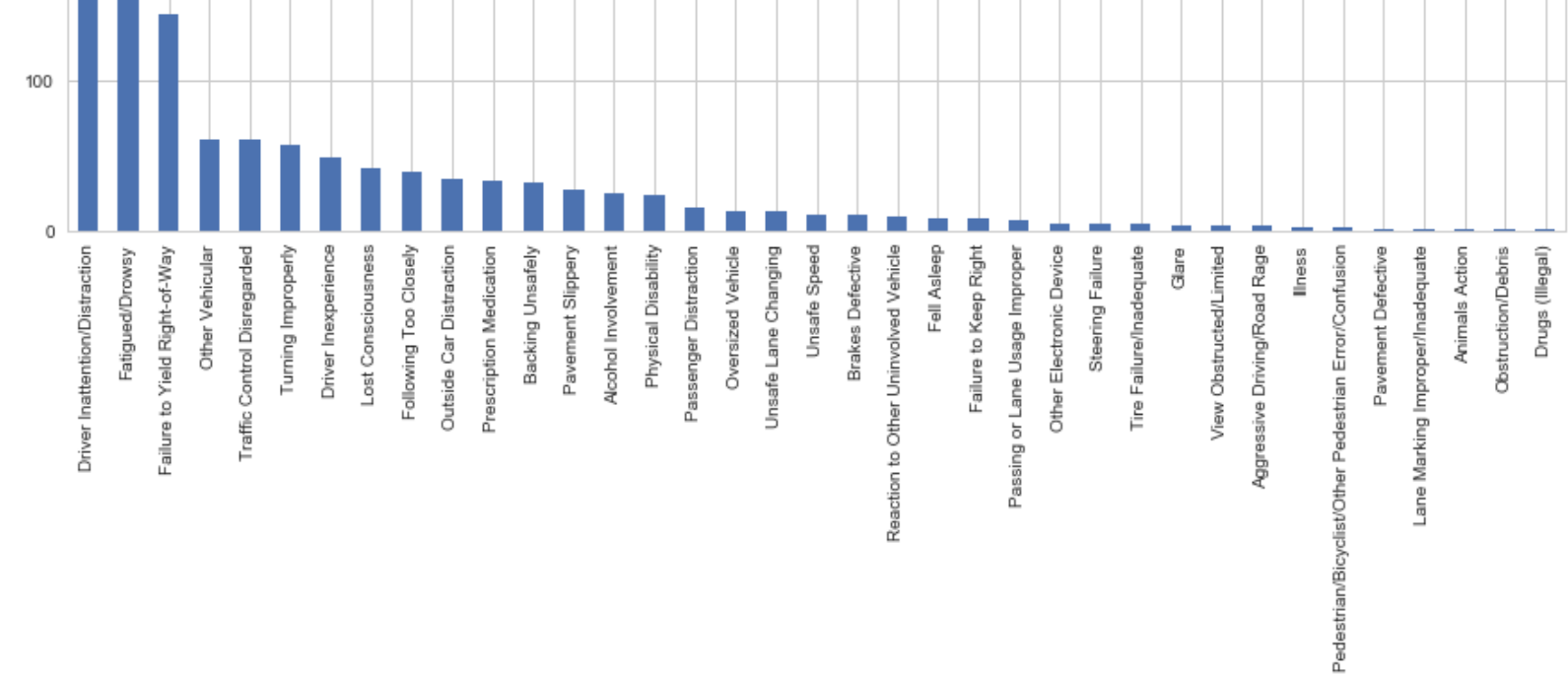


NOSTRAND AVENUE

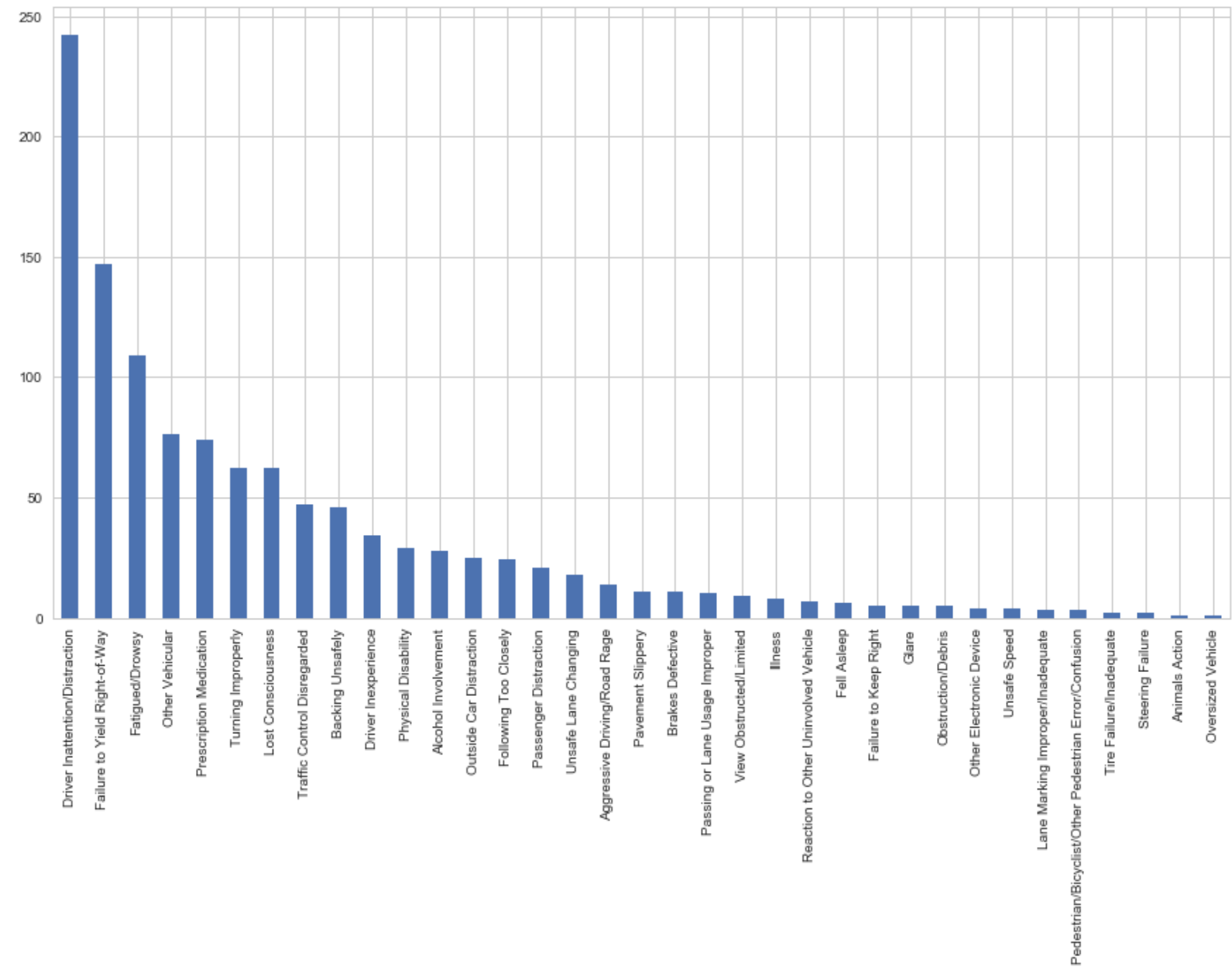


OCEAN PARKWAY





UTICA AVENUE



In [315]:

Out[315]:

```
BROOKLYN          243354
QUEENS            206046
MANHATTAN         201461
BRONX             104782
STATEN ISLAND     36598
Name: borough, dtype: int64
```

In [36]:

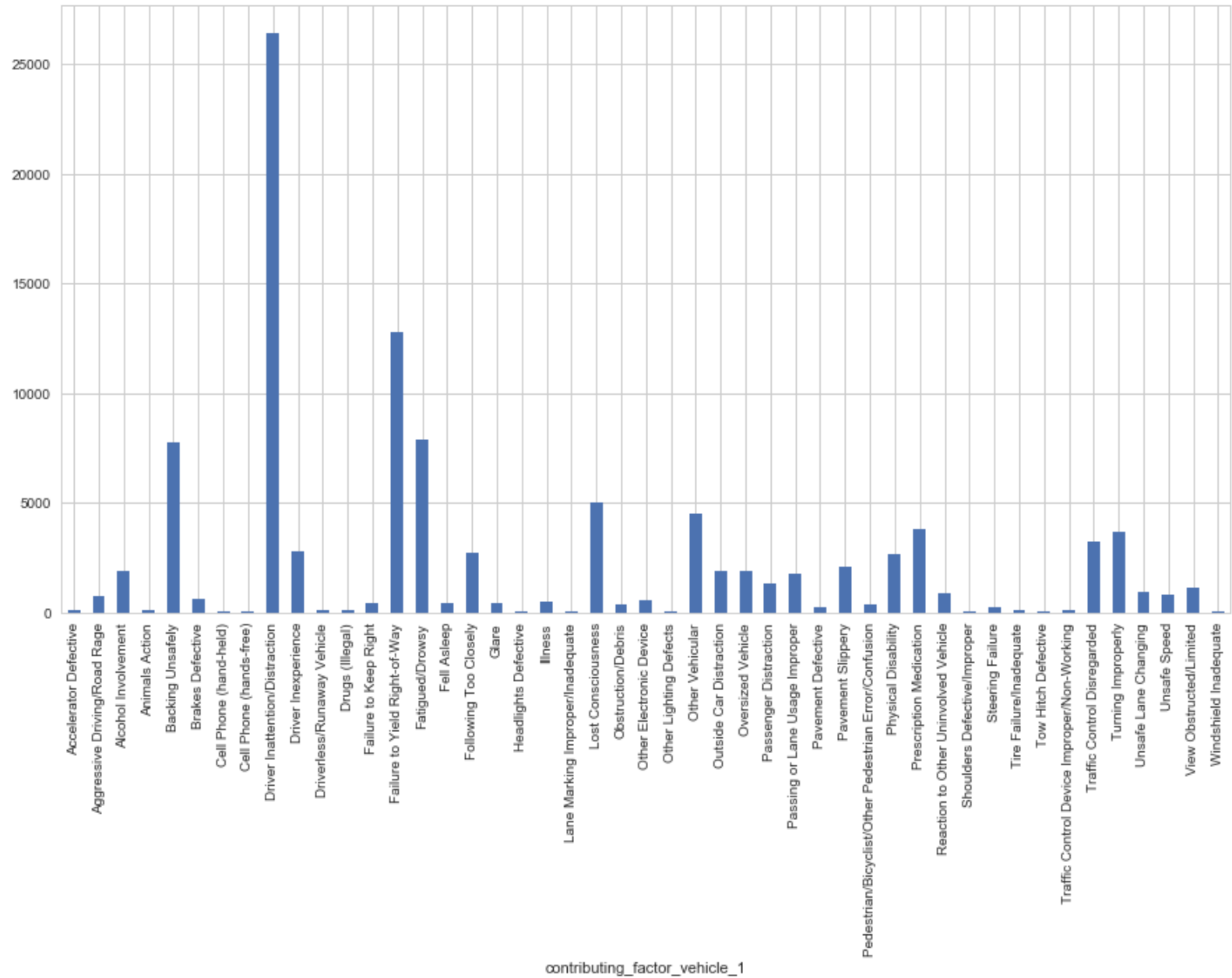
Out[36]:

```
contributing_factor_vehicle_1
Accelerator Defective          48
Aggressive Driving/Road Rage  314
Alcohol Involvement           850
Animals Action                 35
Backing Unsafely              876
Brakes Defective              306
Cell Phone (hand-held)         9
Cell Phone (hands-free)       15
Driver Inattention/Distraction 7814
Driver Inexperience           741
Driverless/Runaway Vehicle     10
Drugs (Illegal)               51
Failure to Keep Right         147
Failure to Yield Right-of-Way 6025
Fatigued/Drowsy              2125
Fell Asleep                   132
Following Too Closely         879
Glare                         262
Headlights Defective          9
Illness                       192
Lane Marking Improper/Inadequate 18
Lost Consciousness           668
Obstruction/Debris           41
Other Electronic Device       145
Other Lighting Defects        8
Other Vehicular              1036
Outside Car Distraction       456
Oversized Vehicle            122
Passenger Distraction         966
Passing or Lane Usage Improper 277
Pavement Defective            75
Pavement Slippery            591
Pedestrian/Bicyclist/Other Pedestrian Error/Confusion 271
```

Physical Disability	1783
Prescription Medication	887
Reaction to Other Uninvolved Vehicle	179
Shoulders Defective/Improper	1
Steering Failure	49
Tire Failure/Inadequate	26
Tow Hitch Defective	1
Traffic Control Device Improper/Non-Working	70
Traffic Control Disregarded	1931
Turning Improperly	643
Unsafe Lane Changing	181
Unsafe Speed	423
View Obstructed/Limited	431
Windshield Inadequate	0

Name: number_of_persons_injured, dtype: int64

In [37]:



In [38]:

Out[38]:

243074

In [39]:

In [40]:

Out[40]:

number_of_cyclist_injured	3549
number_of_cyclist_killed	11
number_of_motorist_injured	22385
number_of_motorist_killed	57
number_of_pedestrians_injured	6990
number_of_pedestrians_killed	90
number_of_persons_injured	32403
number_of_persons_killed	159

dtype: int64

In [41]:

Out[41]:

number_of_cyclist_injured	7575
number_of_motorist_injured	48008
number_of_pedestrians_injured	16509
number_of_persons_injured	71360

dtype: int64

In [42]:

Out[42]:

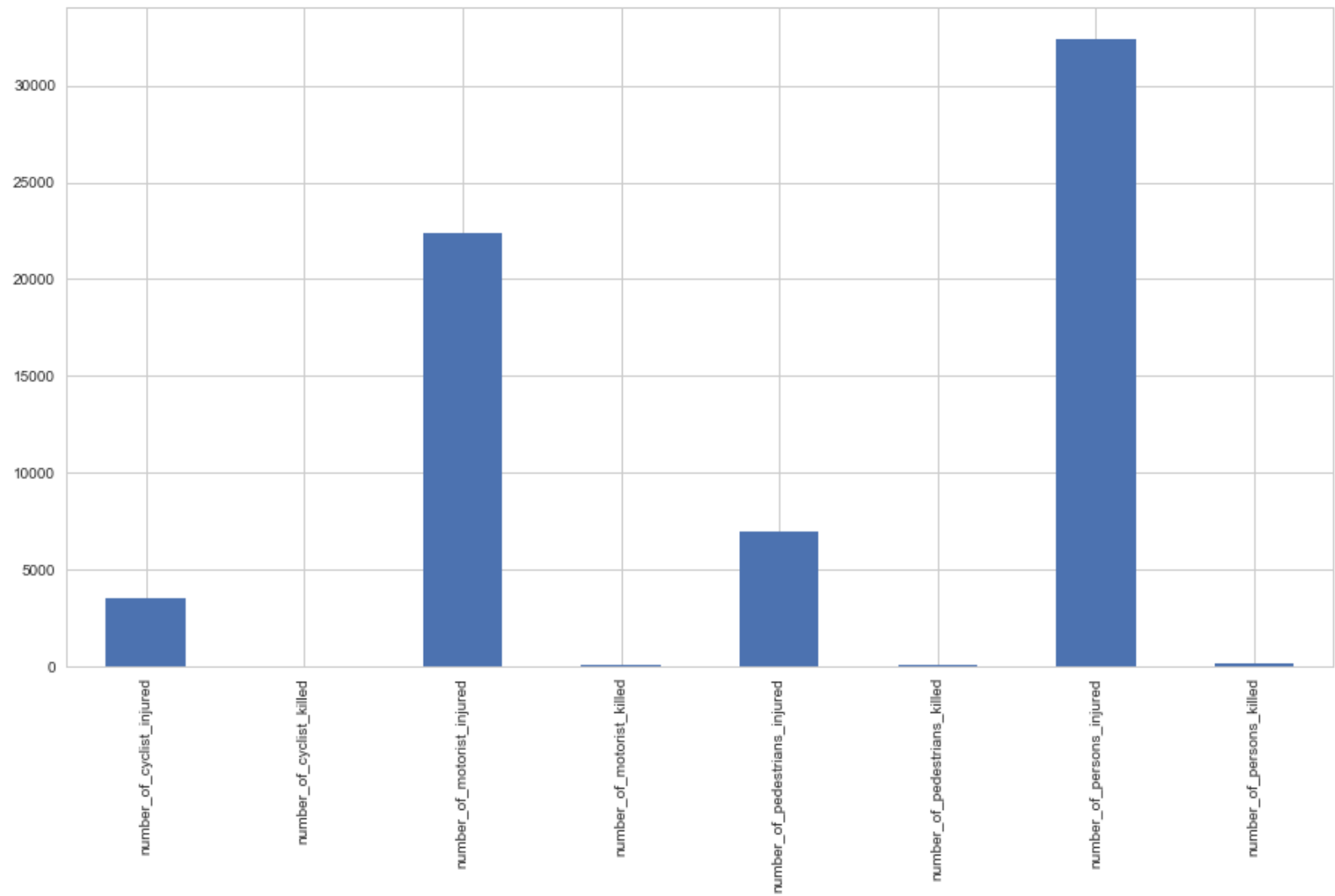
number_of_cyclist_killed	24
number_of_motorist_killed	94
number_of_pedestrians_killed	169
number_of_persons_killed	288

dtype: int64

In [43]:

Out[43]:

<matplotlib.axes._subplots.AxesSubplot at 0x11902efd0>



In [44]:

In [45]:

In [46]:

Out[46]:

on_street_name	
1 AVENUE	39
1 COURT	2
1 PLACE	13
1 STREET	18
10 AVENUE	167
10 STREET	17

100 STREET	6
101 STREET	3
11 AVENUE	173
11 STREET	18
12 AVENUE	179
12 STREET	16
13 AVENUE	345
13 STREET	6
14 AVENUE	302
14 STREET	32
15 AVENUE	189
15 STREET	49
16 AVENUE	194
16 STREET	45
17 AVENUE	166
17 COURT	3
17 STREET	77
18 AVENUE	379
18 STREET	46
18TH AVE	2
19 AVENUE	97
19 STREET	78
2 AVENUE	165
2 PLACE	10
...	
WINTHROP ST	1
WINTHROP STREET	157
WITHERS STREET	26
WOLCOTT STREET	15
WOODBINE STREET	22
WOODHULL STREET	5
WOODPOINT ROAD	16
WOODRUFF AVENUE	16
WOODS PLACE	2
WORTMAN AVENUE	54
WYCKOFF AVENUE	75
WYCKOFF STREET	31
WYONA STREET	14
WYTHE AVE	1
WYTHE AVENUE	370
WYTHE PLACE	5
YORK STREET	45
bqe	1
linden boulevard	1
malcolm x blvd	1
mother gaston blvd	1
paulding street	1
pitkin avenue	2
remsen avenue	1
saint johns place	1
schroeders avenue	1
skillman street	1
south 5th street	1

south conduit blvd 1
west 3rd 1
Name: on_street_name, Length: 1562, dtype: int64

In [94]:

Out[94]:

on_street_name	
1 AVENUE	39
1 COURT	2
1 PLACE	13
1 STREET	18
10 AVENUE	167
10 STREET	17
100 STREET	6
101 STREET	3
11 AVENUE	173
11 STREET	18
12 AVENUE	179
12 STREET	16
13 AVENUE	345
13 STREET	6
14 AVENUE	302
14 STREET	32
15 AVENUE	189
15 STREET	49
16 AVENUE	194
16 STREET	45
17 AVENUE	166
17 COURT	3
17 STREET	77
18 AVENUE	379
18 STREET	46
18TH AVE	2
19 AVENUE	97
19 STREET	78
2 AVENUE	165
2 PLACE	10
...	
WINTHROP ST	1
WINTHROP STREET	157
WITHERS STREET	26
WOLCOTT STREET	15
WOODBINE STREET	22
WOODHULL STREET	5
WOODPOINT ROAD	16
WOODRUFF AVENUE	16
WOODS PLACE	2
WORTMAN AVENUE	54
WYCKOFF AVENUE	75


```
WYCKOFF STREET      31
WYONA STREET        14
WYTHE AVE            1
WYTHE AVENUE        370
WYTHE PLACE          5
YORK STREET          45
bqe                  1
linden boulevard    1
malcolm x blvd       1
mother gaston blvd   1
paulding street      1
pitkin avenue        2
remsen avenue        1
saint johns place    1
schroeders avenue    1
skillman street      1
south 5th street     1
south conduit blvd   1
west 3rd             1
Name: on_street_name, Length: 1562, dtype: int64
```

```
In [ ]:
```

```
In [48]:
```

```
Out[48]:
```

on_street_name	
3 AVENUE	1177
4 AVENUE	1088
ATLANTIC AVENUE	2937
BEDFORD AVENUE	1401
CONEY ISLAND AVENUE	1238
EASTERN PARKWAY	1067
FLATBUSH AVENUE	2102
NOSTRAND AVENUE	1348
OCEAN PARKWAY	1399
UTICA AVENUE	1155

```
Name: contributing_factor_vehicle_1, dtype: int64
```

```
In [49]:
```

```
Out[49]:
```

on_street_name	contributing_factor_vehicle_1
3 AVENUE	Driver Inattention/Distracted
245	

123	Failure to Yield Right-of-Way
	Fatigued/Drowsy
113	Prescription Medication
98	Turning Improperly
82	Lost Consciousness
69	Backing Unsafely
62	Physical Disability
60	Other Vehicular
40	Driver Inexperience
34	Traffic Control Disregarded
33	Following Too Closely
24	Oversized Vehicle
23	Pavement Slippery
21	Alcohol Involvement
14	Outside Car Distraction
14	Passing or Lane Usage Improper
14	Unsafe Lane Changing
13	Aggressive Driving/Road Rage
11	Obstruction/Debris
10	Traffic Control Device Improper/Non-Working
10	View Obstructed/Limited
10	Failure to Keep Right
8	Passenger Distraction
7	Unsafe Speed
7	Fell Asleep
5	Pavement Defective
4	Reaction to Other Uninvolved Vehicle

4	
	Brakes Defective
3	
	Illness
3	
...	
UTICA AVENUE	Lost Consciousness
62	
	Turning Improperly
62	
	Traffic Control Disregarded
47	
	Backing Unsafely
46	
	Driver Inexperience
34	
	Physical Disability
29	
	Alcohol Involvement
28	
	Outside Car Distraction
25	
	Following Too Closely
24	
	Passenger Distraction
21	
	Unsafe Lane Changing
18	
	Aggressive Driving/Road Rage
14	
	Brakes Defective
11	
	Pavement Slippery
11	
	Passing or Lane Usage Improper
10	
	View Obstructed/Limited
9	
	Illness
8	
	Reaction to Other Uninvolved Vehicle
7	
	Fell Asleep
6	
	Failure to Keep Right
5	
	Glare
5	
	Obstruction/Debris
5	
	Other Electronic Device
4	

Unsafe Speed

Lane Marking Improper/Inadequate

Pedestrian/Bicyclist/Other Pedestrian Error/Confusion

Steering Failure

Tire Failure/Inadequate

Animals Action

Oversized Vehicle

Name: contributing_factor_vehicle_1, Length: 380, dtype: int64

In [50]:

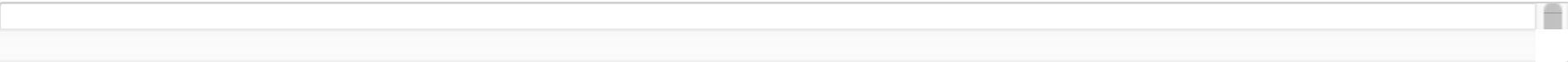
Out[50]:

```
0          59 AVENUE
1        UTICA AVENUE
2              NaN
3    JEFFERSON AVENUE
4        FOSTER AVENUE
5              NaN
6        136 AVENUE
7    LORING AVENUE
8        20 AVENUE
9    WEST 5 STREET
10   FINGERBOARD ROAD
11   EAST 105 STREET
12        SOUTH ROAD
13   ANNADALE ROAD
14              NaN
15   WOODSIDE AVENUE
16        34 AVENUE
17   EAST 58 STREET
18   JUNIUS STREET
19              NaN
20        101 AVENUE
21              NaN
22        177 STREET
23              NaN
24   GREENWICH AVENUE
25              NaN
26              NaN
27              NaN
28        2 AVENUE
29   GATES AVENUE
```

...

```
1089235      166 STREET
1089236      UNION STREET
1089237      YORK AVENUE
1089238      EAST 24 STREET
1089239      NaN
1089240      NaN
1089241      6 AVENUE
1089242      RIVERDALE AVENUE
1089243      NOSTRAND AVENUE
1089244      CEDAR CROFT ROAD
1089245      NaN
1089246      LINCOLN PLACE
1089247      BROADWAY
1089248      3 AVENUE
1089249      EAST 2 STREET
1089250      ROOSEVELT AVENUE
1089251      NaN
1089252      NaN
1089253      EVERGREEN AVENUE
1089254      5 AVENUE
1089255      DAHLIA AVENUE
1089256      PLAINVIEW AVENUE
1089257      DITMAS AVENUE
1089258      NaN
1089259      10 AVENUE
1089260      THAYER STREET
1089261      NaN
1089262      BERGEN AVENUE
1089263      NaN
1089264      BROADWAY
Name: cross_street_name, Length: 1089265, dtype: object
```

In [51]:



Out[51]:

on_street_name	
1 AVENUE	77
1 COURT	5
1 PLACE	32
1 STREET	61
10 AVENUE	334
10 STREET	63
100 STREET	28
101 STREET	13
104 STREET	1
11 AVENUE	363
11 STREET	71
12 AVENUE	397
12 STREET	82
12 avenue	1

13 AVENUE	725
13 STREET	49
14 AVENUE	675
14 STREET	98
15 AVENUE	457
15 STREET	134
16 AVENUE	486
16 STREET	98
17 AVENUE	381
17 COURT	4
17 STREET	182
18 AVENUE	928
18 STREET	96
18TH AVE	2
19 AVENUE	252
19 LANE	1
	...
WYONA STREET	82
WYTHE AVE	1
WYTHE AVENUE	514
WYTHE PLACE	8
Washington avenue	1
YORK STREET	65
bqe	1
chauncey street	1
dekalb avenue	1
elton street	1
hamilton avenue	1
linden boulevard	1
malcolm x blvd	1
morris avenue	2
mother gaston blvd	1
old fulton street	1
paulding street	1
pitkin avenue	4
remsen avenue	1
rockaway ave	1
saint johns place	1
schroeders avenue	1
skillman street	1
south 5th street	1
south conduit blvd	1
south market street	1
st edwards street	1
thomas s boyland street	1
utica avenue	1
west 3rd	1

Name: number_of_persons_killed, Length: 1798, dtype: int64

In [52]:

Out[52]:

```
vehicle_type_code1
AMBULANCE          588
BICYCLE            1067
BUS                3325
FIRE TRUCK         238
LARGE COM VEH(6 OR MORE TIRES) 2762
LIVERY VEHICLE     1223
MOTORCYCLE         1368
OTHER              6907
PASSENGER VEHICLE  144777
PEDICAB            1
PICK-UP TRUCK      3423
SCOOTER            101
SMALL COM VEH(4 TIRES) 3138
SPORT UTILITY / STATION WAGON 58598
TAXI               3026
UNKNOWN            5140
VAN                6234
Name: number_of_persons_killed, dtype: int64
```

In [53]:

In [54]:

Out[54]:

```
vehicle_type_code1
AMBULANCE          561
BICYCLE            845
BUS               3312
FIRE TRUCK         227
LARGE COM VEH(6 OR MORE TIRES) 2730
LIVERY VEHICLE     1221
MOTORCYCLE         1226
OTHER              6730
PASSENGER VEHICLE 130170
PEDICAB            1
PICK-UP TRUCK      3008
SCOOTER            99
SMALL COM VEH(4 TIRES) 2926
SPORT UTILITY / STATION WAGON 53092
TAXI               2733
UNKNOWN            5097
VAN                6080
Name: number_of_persons_injured, dtype: int64
```

In [55]:

In [56]:

Out[56]:

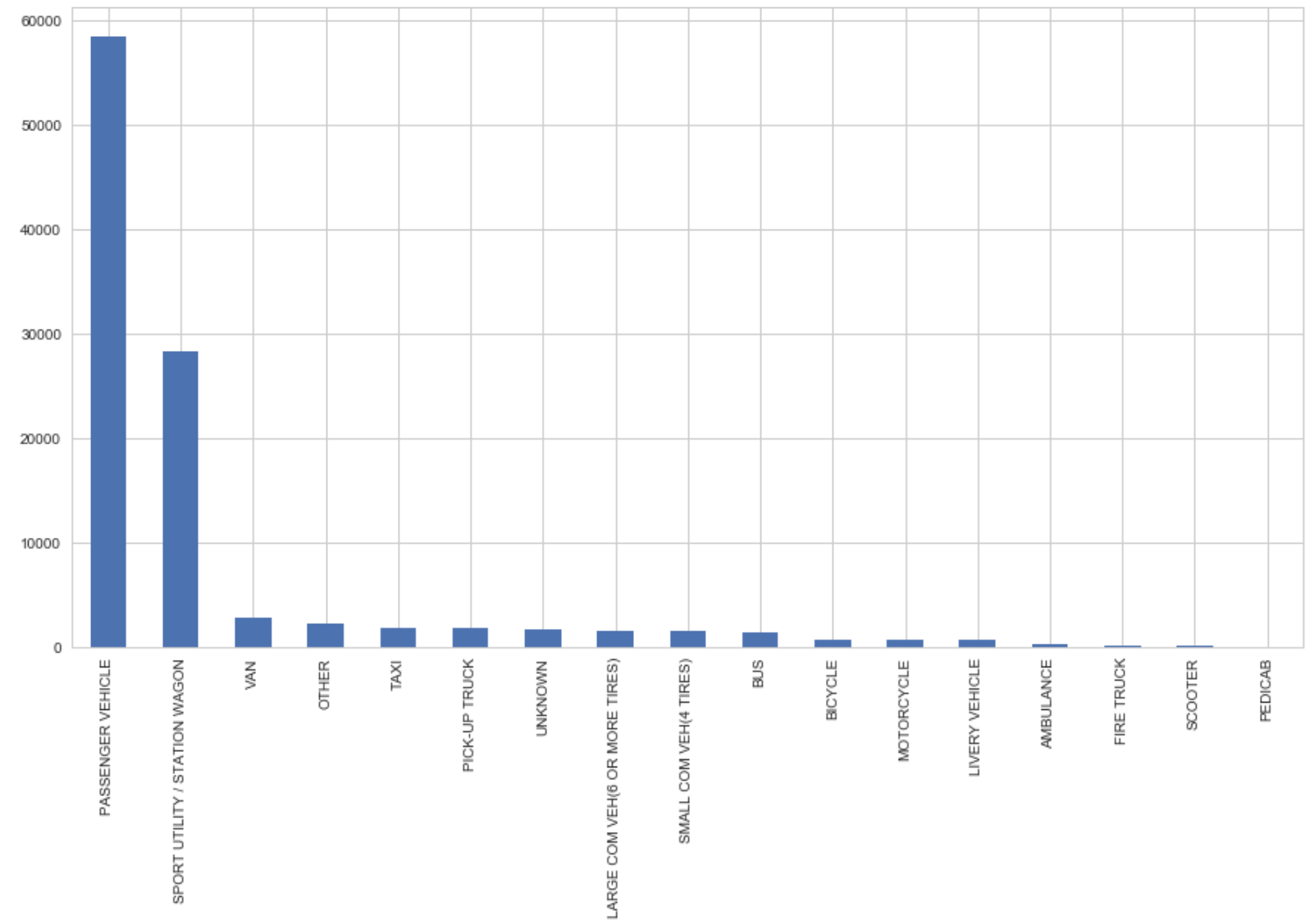
PASSENGER VEHICLE	58350
SPORT UTILITY / STATION WAGON	28248
VAN	2787
OTHER	2243
TAXI	1778
PICK-UP TRUCK	1760
UNKNOWN	1573
LARGE COM VEH(6 OR MORE TIRES)	1527
SMALL COM VEH(4 TIRES)	1474
BUS	1349
BICYCLE	649
MOTORCYCLE	649
LIVERY VEHICLE	583
AMBULANCE	195
FIRE TRUCK	81
SCOOTER	44
PEDICAB	1

Name: vehicle_type_code1, dtype: int64

In [57]:

Out[57]:

<matplotlib.axes._subplots.AxesSubplot at 0x11aeb4b38>



In [124]:

In [125]:

Out[125]:

	borough	contributing_factor_vehicle_1	contributing_factor_vehicle_2	contributing_factor_veh
0	NaN	Unspecified	Unspecified	
1	BROOKLYN	Unspecified	Unspecified	
2	NaN	Driver Inattention/Distracted	Unspecified	
3	BROOKLYN	Unspecified	Unspecified	
4	BROOKLYN	Unspecified	NaN	

5 rows x 32 columns

In [60]:

In [61]:

Out[61]:

	borough	contributing_factor_vehicle_1	contributing_factor_vehicle_2	contributing_fa
1	BROOKLYN	Unspecified	Unspecified	
3	BROOKLYN	Unspecified	Unspecified	
4				

	BROOKLYN	Unspecified	NaN
7			
	BROOKLYN	Unspecified	NaN
9			
	BROOKLYN	Driver Inattention/Distraction	Unspecified
11			
	BROOKLYN	Unspecified	Unspecified
14			
	BROOKLYN	Unspecified	NaN
18			
	BROOKLYN	Unspecified	Unspecified
23			
	BROOKLYN	Unspecified	Unspecified
31			
	BROOKLYN	Unspecified	Unspecified
35			
	BROOKLYN	Driver Inattention/Distraction	Unspecified
37			
	BROOKLYN	Unspecified	Unspecified
39			
	BROOKLYN	Oversized Vehicle	Unspecified
43			
	BROOKLYN	Unspecified	Unspecified
45			
	BROOKLYN	Unspecified	NaN
47			
	BROOKLYN	Driver Inexperience	Unspecified

52	BROOKLYN	Driver Inexperience	Unspecified
54	BROOKLYN	Unspecified	Unspecified
60	BROOKLYN	Unspecified	Unspecified
64	BROOKLYN	Unspecified	NaN
66	BROOKLYN	Following Too Closely	Unspecified
68	BROOKLYN	Unspecified	Unspecified
69	BROOKLYN	Unspecified	Unspecified
76	BROOKLYN	Unspecified	Unspecified
83	BROOKLYN	Prescription Medication	Unspecified
84	BROOKLYN	Fatigued/Drowsy	Unspecified
85	BROOKLYN	Driver Inattention/Distraction	Unspecified
86	BROOKLYN	Failure to Yield Right-of-Way	Unspecified
87	BROOKLYN	Unspecified	Unspecified

89	BROOKLYN	Backing Unsafely	Backing Unsafely
...
1089145	BROOKLYN	Unspecified	Unspecified
1089146	BROOKLYN	Unspecified	Unspecified
1089147	BROOKLYN	Unspecified	Unspecified
1089154	BROOKLYN	Unspecified	Unspecified
1089156	BROOKLYN	Lost Consciousness	Lost Consciousness
1089158	BROOKLYN	Fatigued/Drowsy	Unspecified
1089161	BROOKLYN	Unspecified	Unspecified
1089162	BROOKLYN	Unspecified	Unspecified
1089168	BROOKLYN	Fatigued/Drowsy	Unspecified
1089169	BROOKLYN	Unspecified	Unspecified
1089170	BROOKLYN	Failure to Yield Right-of-Way	NaN
1089171	BROOKLYN	Unspecified	NaN

1089172	BROOKLYN	Prescription Medication	Lost Consciousness
1089177	BROOKLYN	Unspecified	Unspecified
1089179	BROOKLYN	Unspecified	Unspecified
1089190	BROOKLYN	Unspecified	Unspecified
1089192	BROOKLYN	Physical Disability	Physical Disability
1089193	BROOKLYN	Driver Inattention/Distraction	Fatigued/Drowsy
1089201	BROOKLYN	Failure to Yield Right-of-Way	Failure to Yield Right-of-Way
1089211	BROOKLYN	Unspecified	Unspecified
1089220	BROOKLYN	Unspecified	Unspecified
1089229	BROOKLYN	Driver Inattention/Distraction	NaN
1089236	BROOKLYN	Unspecified	Unspecified
1089238	BROOKLYN	Unspecified	Unspecified
1089242	BROOKLYN	Unspecified	Unspecified
1089243			

BROOKLYN	Other Vehicular	Unspecified
----------	-----------------	-------------

1089246	BROOKLYN	Driver Inattention/Distraction	Unspecified
---------	----------	--------------------------------	-------------

1089249	BROOKLYN	Unspecified	Unspecified
---------	----------	-------------	-------------

1089257	BROOKLYN	Unspecified	NaN
---------	----------	-------------	-----

1089264	BROOKLYN	Driver Inattention/Distraction	Unspecified
---------	----------	--------------------------------	-------------

In [325]:

In [326]:

Out[326]:

16:00:00	3278
15:00:00	3216
17:00:00	3098
18:00:00	2822
14:00:00	2773
13:00:00	2658
16:30:00	2463
12:00:00	2323
17:30:00	2318
19:00:00	2292

Name: Time, dtype: int64

In [319]:

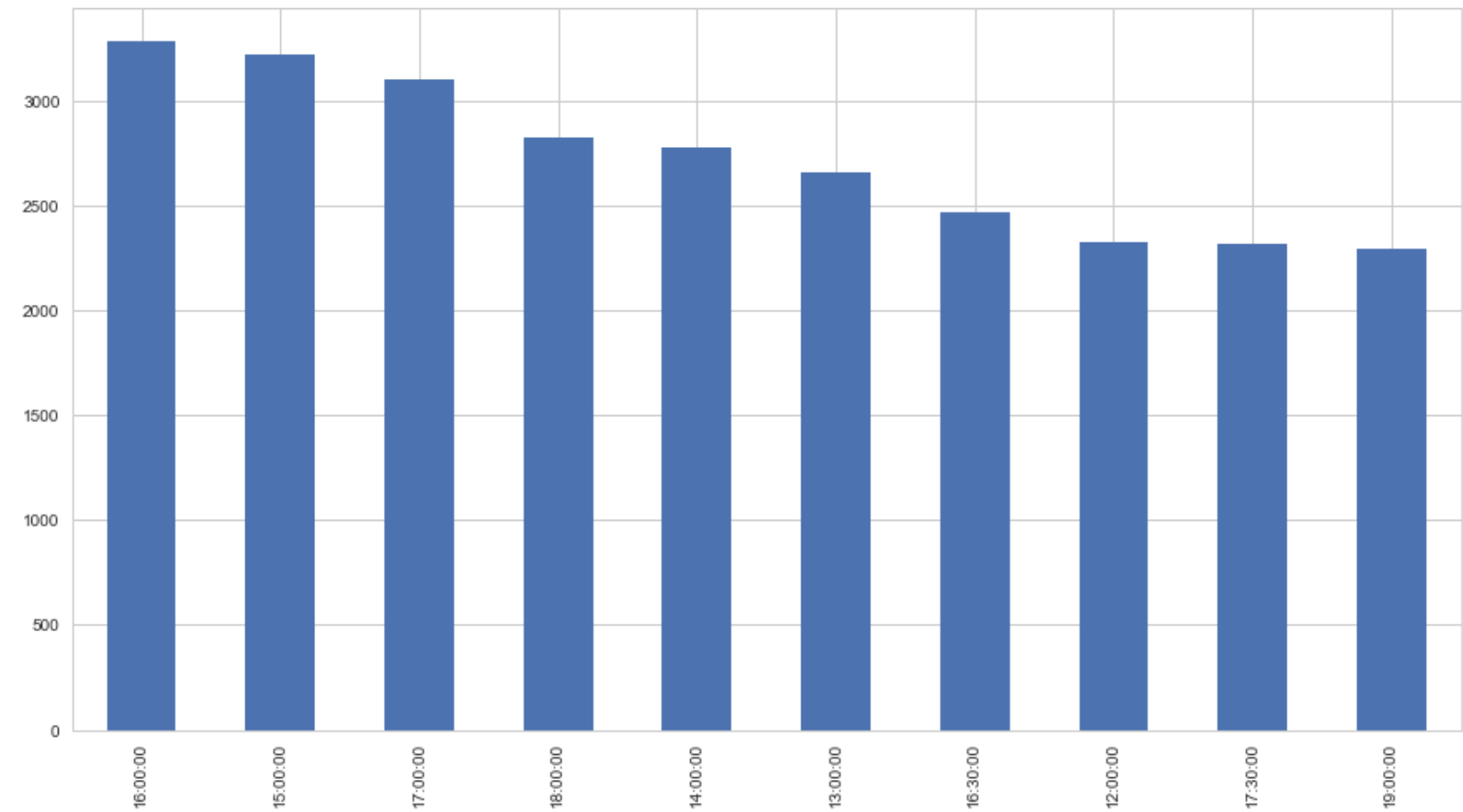
Out[319]:

2724.1

In [65]:

Out[65]:

<matplotlib.axes._subplots.AxesSubplot at 0x118fefcc0>



In [173]:

In [175]:

Out[175]:

3	8522
1	8348
17	8208
19	8207
7	8185
21	8146
18	8120
2	8109
13	8109
9	8106

Name: day, dtype: int64

In [68]:

Out[68]:

number_of_cyclist_injured	7575
number_of_motorist_injured	48008
number_of_pedestrians_injured	16509
number_of_persons_injured	71360
dtype:	int64

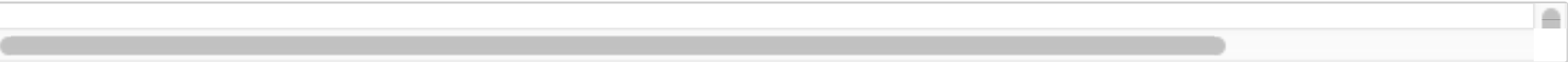
In [69]:

Out[69]:

ATLANTIC AVENUE	7264
FLATBUSH AVENUE	5120
LINDEN BOULEVARD	3358
NOSTRAND AVENUE	3298
BEDFORD AVENUE	3143
OCEAN PARKWAY	3019
EASTERN PARKWAY	2964
UTICA AVENUE	2864
CONEY ISLAND AVENUE	2587
PENNSYLVANIA AVENUE	2488
KINGS HIGHWAY	2462
4 AVENUE	2394
FULTON STREET	2374
3 AVENUE	2237
OCEAN AVENUE	2194
BUSHWICK AVENUE	2096
CHURCH AVENUE	1877
86 STREET	1715
RALPH AVENUE	1662
65 STREET	1598
BROADWAY	1576
FLATLANDS AVENUE	1465
5 AVENUE	1461
MYRTLE AVENUE	1436
FLUSHING AVENUE	1414
AVENUE U	1407
ROGERS AVENUE	1323
ROCKAWAY PARKWAY	1320
FLATBUSH AVENUE EXTENSION	1308
AVENUE J	1170
...	
DAHL COURT	1
chauncey street	1
Washington avenue	1
JEWELL STREET	1

```
STILLWELLS PLACE      1
SKIDMORE LANE         1
EAST 35 ST            1
WALWORTH ST           1
LEXINTON AVENUE       1
DOSHER STREET         1
KAUFMAN PLACE         1
S.PORTLAND AVE        1
BRIGHTON 4 ROAD      1
OLEAN STREET          1
Ocean avenue          1
BROOKLYN BATTERY TUNNEL 1
ANGELA DRIVE          1
south conduit blvd    1
OLD MILL ROAD         1
MARTIN L KING PLACE   1
south 5th street      1
ALTON PLACE           1
VERNON AV             1
W 3rd St              1
LOVE LANE             1
Nostrand avenue       1
WOGAN TERRACE         1
3 avenue              1
GATES AVE             1
BERRY ST              1
Name: on_street_name, Length: 1798, dtype: int64
```

In [70]:



Out[70]:

	number_of_cyclist_injured	number_of_motorist_injured	number_of_pedestrians_injured	nt
1	0	0	0	
3	0	0	0	
4	0	4	0	
7	0	0	1	
9	0	0	0	
11	0	0	0	
14	0	0	0	
18	0	0	0	

23	0	0	0
31	0	0	0
35	0	0	0
37	0	0	0
39	0	0	0
43	0	0	0
45	0	0	0
47	0	0	0
52	0	0	0
54	0	0	0
60	0	0	0
64	0	0	0
66	0	0	0
68	0	0	0
69	0	1	0
76	0	0	0
83	0	0	0
84	0	0	0
85	0	1	0
86	0	0	0
87	0	0	0
89	0	0	0
...
1089145	0	0	0
1089146	0	0	0
1089147	0	0	0

1089154	0	0	0
1089156	0	0	0
1089158	0	0	0
1089161	0	0	0
1089162	0	0	0
1089168	0	3	0
1089169	0	0	0
1089170	0	0	1
1089171	0	0	1
1089172	0	0	0
1089177	0	0	0
1089179	0	0	0
1089190	0	0	0
1089192	0	0	0
1089193	0	0	0
1089201	0	0	0
1089211	0	0	0
1089220	0	0	0
1089229	0	0	1
1089236	0	0	0
1089238	0	0	0
1089242	0	1	0
1089243	0	0	0
1089246	0	0	0
1089249	1	0	0
1089257	0	0	1

243354 rows × 5 columns

In [71]:

Out[71]:

ATLANTIC AVENUE	7264
FLATBUSH AVENUE	5120
LINDEN BOULEVARD	3358
NOSTRAND AVENUE	3298
BEDFORD AVENUE	3143
OCEAN PARKWAY	3019
EASTERN PARKWAY	2964
UTICA AVENUE	2864
CONEY ISLAND AVENUE	2587
PENNSYLVANIA AVENUE	2488
KINGS HIGHWAY	2462
4 AVENUE	2394
FULTON STREET	2374
3 AVENUE	2237
OCEAN AVENUE	2194
BUSHWICK AVENUE	2096
CHURCH AVENUE	1877
86 STREET	1715
RALPH AVENUE	1662
65 STREET	1598
BROADWAY	1576
FLATLANDS AVENUE	1465
5 AVENUE	1461
MYRTLE AVENUE	1436
FLUSHING AVENUE	1414
AVENUE U	1407
ROGERS AVENUE	1323
ROCKAWAY PARKWAY	1320
FLATBUSH AVENUE EXTENSION	1308
AVENUE J	1170
...	
DAHL COURT	1
chauncey street	1
Washington avenue	1
JEWELL STREET	1
STILLWELLS PLACE	1
SKIDMORE LANE	1
EAST 35 ST	1
WALWORTH ST	1
LEXINTON AVENUE	1
DOSHER STREET	1
KAUFMAN PLACE	1

```
S.PORTLAND AVE      1
BRIGHTON 4 ROAD    1
OLEAN STREET        1
Ocean avenue        1
BROOKLYN BATTERY TUNNEL  1
ANGELA DRIVE        1
south conduit blvd  1
OLD MILL ROAD       1
MARTIN L KING PLACE 1
south 5th street    1
ALTON PLACE         1
VERNON AV           1
W 3rd St            1
LOVE LANE           1
Nostrand avenue     1
WOGAN TERRACE       1
3 avenue            1
GATES AVE           1
BERRY ST            1
Name: on_street_name, Length: 1798, dtype: int64
```

In [72]:

Out[72]:

```
ATLANTIC AVENUE      7264
FLATBUSH AVENUE      5120
LINDEN BOULEVARD     3358
NOSTRAND AVENUE      3298
BEDFORD AVENUE       3143
OCEAN PARKWAY        3019
EASTERN PARKWAY      2964
UTICA AVENUE         2864
CONEY ISLAND AVENUE  2587
PENNSYLVANIA AVENUE  2488
KINGS HIGHWAY        2462
4 AVENUE             2394
FULTON STREET        2374
3 AVENUE             2237
OCEAN AVENUE         2194
BUSHWICK AVENUE      2096
CHURCH AVENUE        1877
86 STREET           1715
RALPH AVENUE         1662
65 STREET           1598
BROADWAY             1576
FLATLANDS AVENUE     1465
5 AVENUE             1461
MYRTLE AVENUE        1436
FLUSHING AVENUE      1414
AVENUE U             1407
```

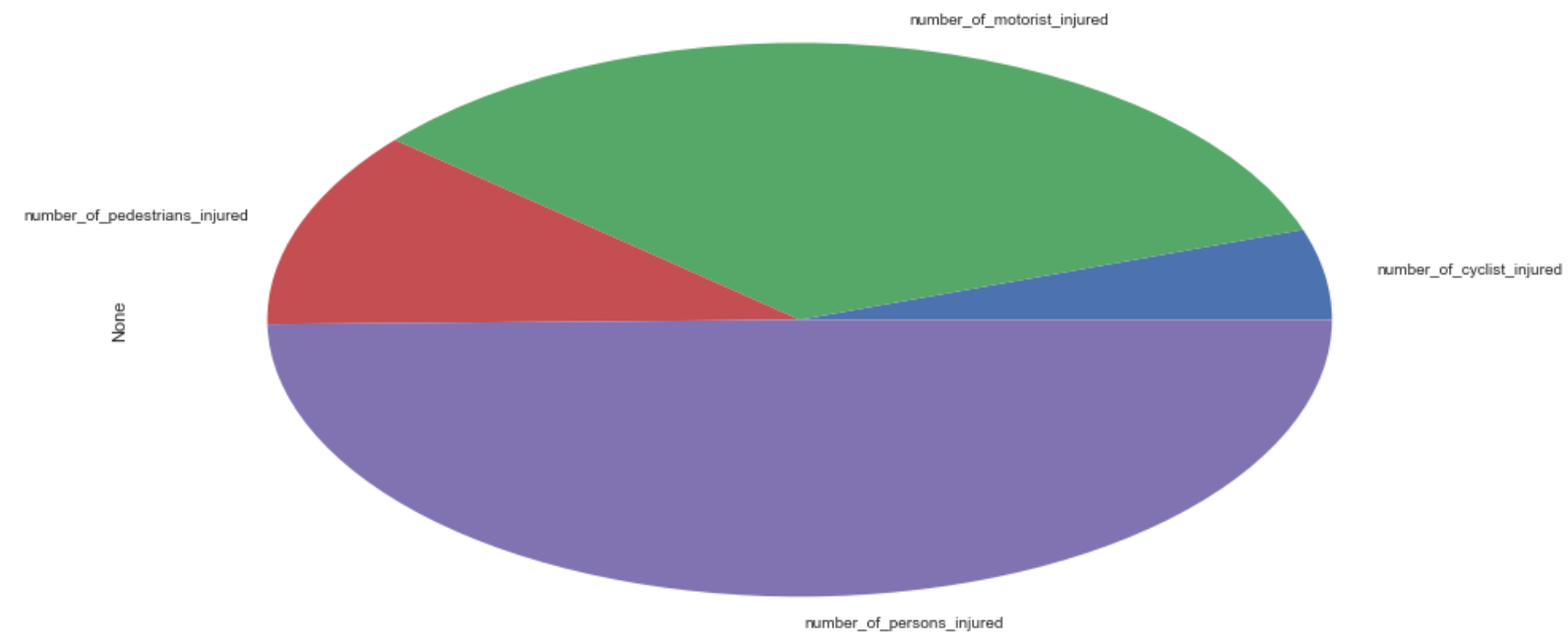
ROGERS AVENUE	1323
ROCKAWAY PARKWAY	1320
FLATBUSH AVENUE EXTENSION	1308
AVENUE J	1170
...	
DAHL COURT	1
chauncey street	1
Washington avenue	1
JEWELL STREET	1
STILLWELLS PLACE	1
SKIDMORE LANE	1
EAST 35 ST	1
WALWORTH ST	1
LEXINTON AVENUE	1
DOSHER STREET	1
KAUFMAN PLACE	1
S.PORTLAND AVE	1
BRIGHTON 4 ROAD	1
OLEAN STREET	1
Ocean avenue	1
BROOKLYN BATTERY TUNNEL	1
ANGELA DRIVE	1
south conduit blvd	1
OLD MILL ROAD	1
MARTIN L KING PLACE	1
south 5th street	1
ALTON PLACE	1
VERNON AV	1
W 3rd St	1
LOVE LANE	1
Nostrand avenue	1
WOGAN TERRACE	1
3 avenue	1
GATES AVE	1
BERRY ST	1

Name: on_street_name, Length: 1798, dtype: int64

In [73]:

Out[73]:

<matplotlib.axes._subplots.AxesSubplot at 0x1189ad358>



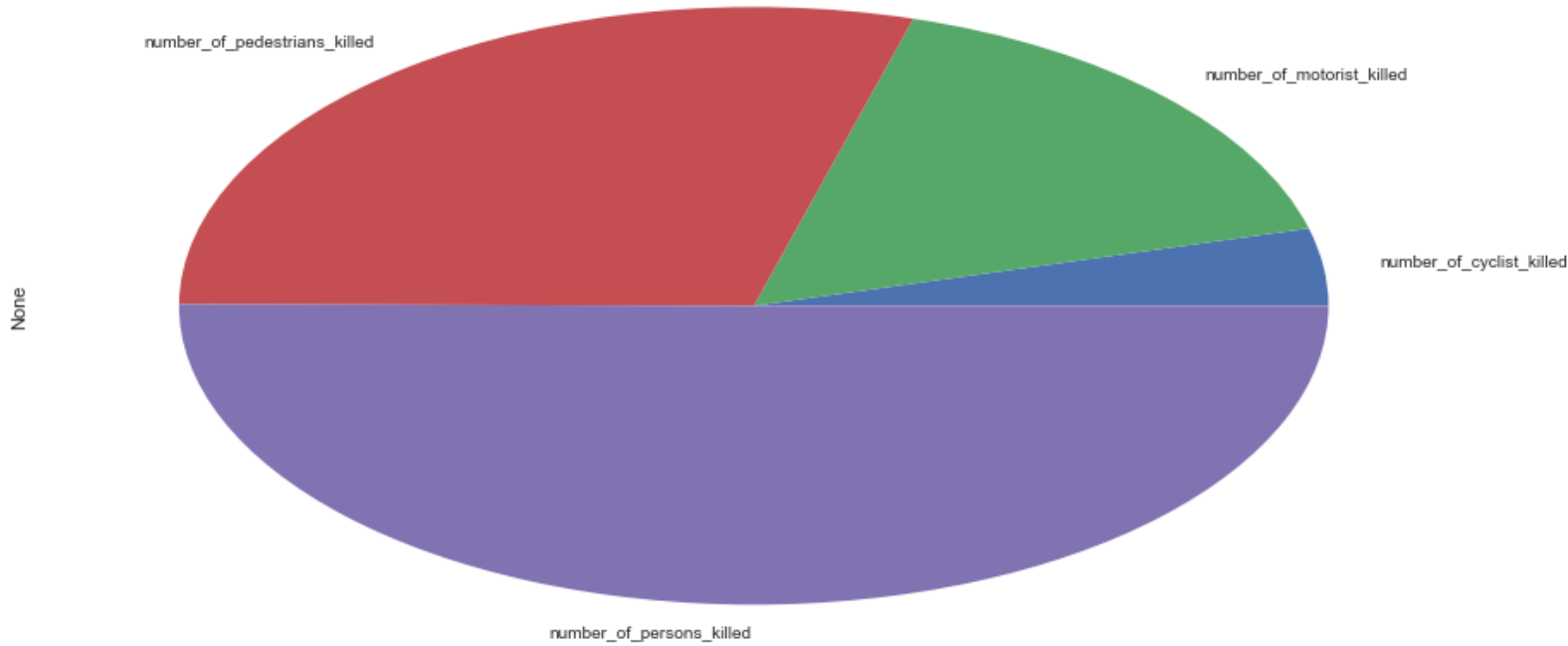
In []:

In []:

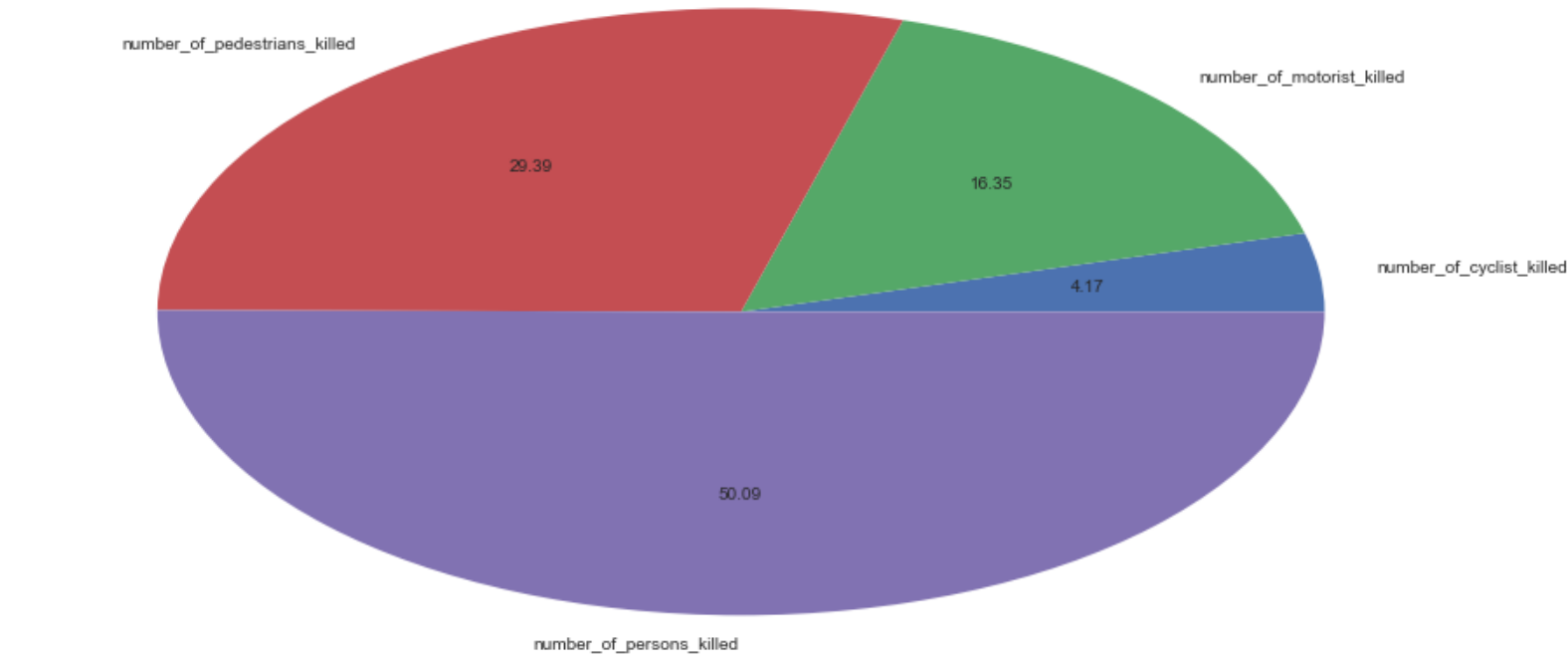
In [74]:

Out[74]:

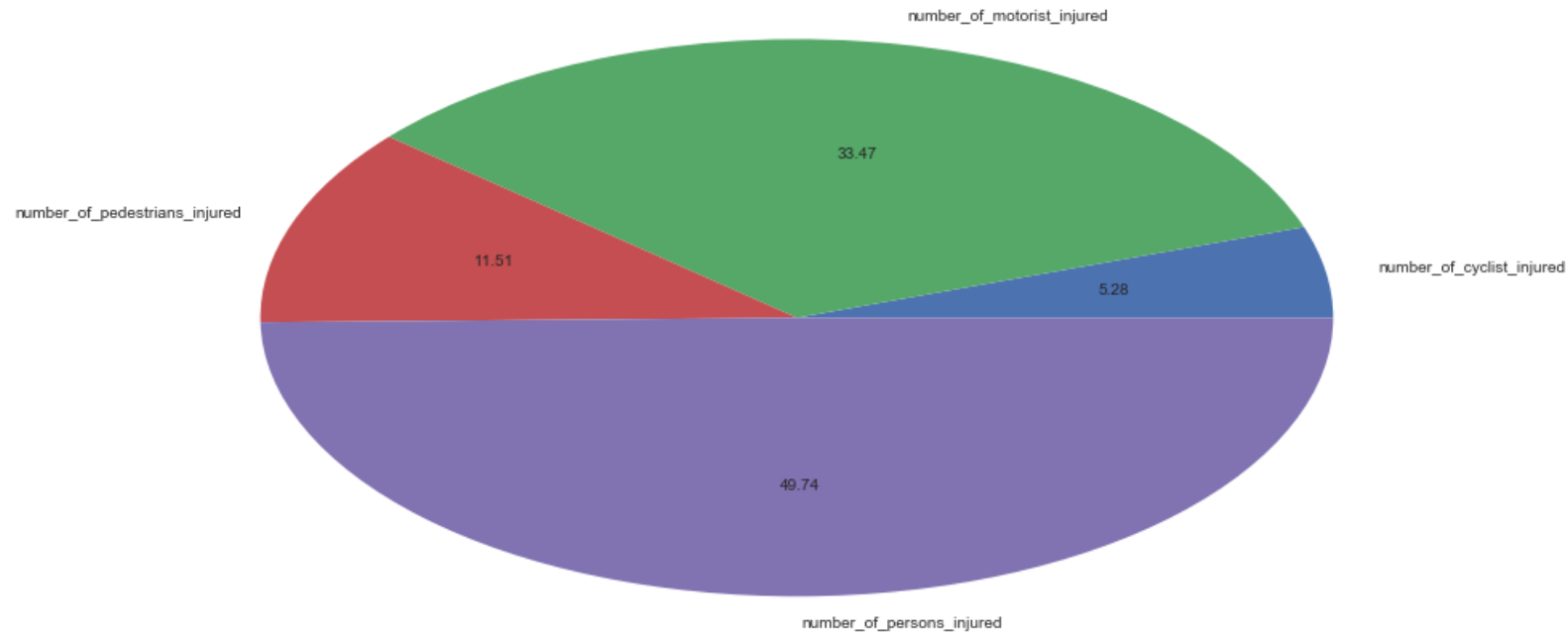
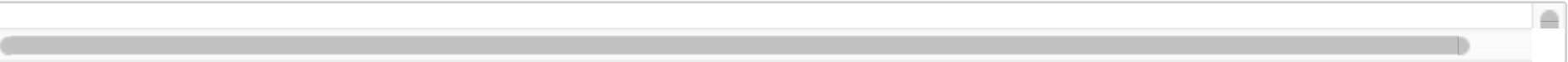
<matplotlib.axes._subplots.AxesSubplot at 0x1184bf518>



In [75]:



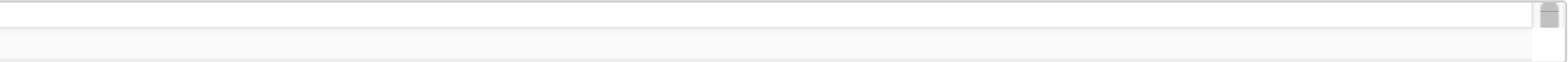
In [76]:



In [77]:



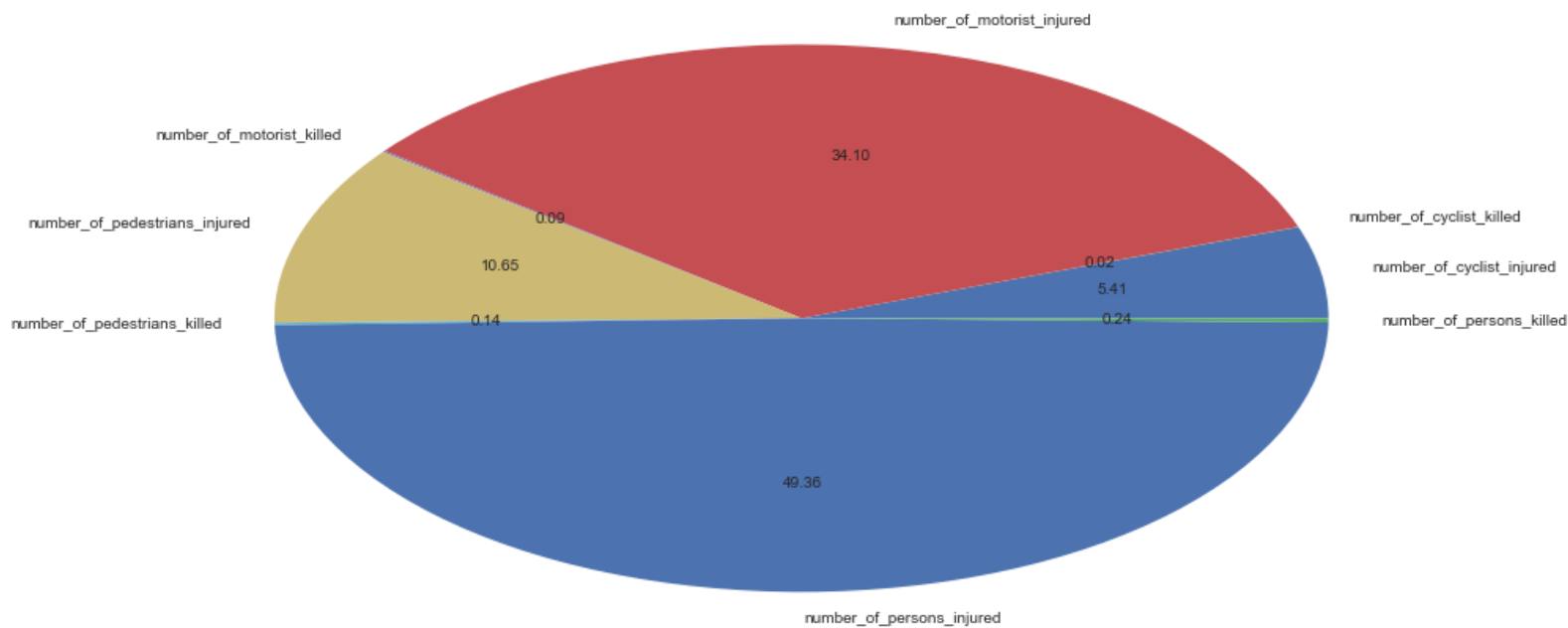
In [78]:



Out[78]:

number_of_cyclist_injured	3549
number_of_cyclist_killed	11
number_of_motorist_injured	22385
number_of_motorist_killed	57
number_of_pedestrians_injured	6990
number_of_pedestrians_killed	90
number_of_persons_injured	32403
number_of_persons_killed	159
dtype:	int64

In [79]:



In [80]:

In [81]:

Out[81]:

	off_street_name
14	750 54 STREET
23	230 6 AVE
85	201 EAST 18 STREET
89	1690 EAST 102 STREET
93	766 EAST 80 STREET
293	739 MACDONOUGH STREET
321	4618 8 AVENUE
456	50 VANDALIA AVENUE
492	9901 GLENWOOD ROAD
495	742 WASHINGTON AVENUE
518	294 PARK PLACE

540	2909 WEST 17 STREET
619	241 SUYDAM STREET
639	60 WATER STREET
649	1366 EAST 37 STREET
692	673 EAST 94 STREET
719	486 7TH STREET
721	799 MANHATTAN AVENUE
782	34 SHARON STREET
817	1397 FULTON STREET
946	1502 PITKIN AVENUE
958	1107 GLENMORE AVENUE
970	872 QUINCY STREET
992	4228 10 AVENUE
1075	181 RUSSELL STREET
1121	962 68 STREET
1165	629 WARREN STREET
1372	367 STOCKHOLM STREET
1409	408 ROCKAWAY AVENUE
1433	1080 MC DONALD AVENUE

... ...

1088086	492 4th Ave
1088127	273 MONROE STREET
1088269	1547 EAST 52 STREET
1088289	308 AVENUE U
1088349	218 RUTLEDGE STREET
1088358	85 LORIMER STREET
1088384	505 NEPTUNE AVENUE
1088417	330 WILSON AVENUE
1088440	2069 WEST 9 STREET
1088454	8870 17 AVENUE
1088569	2147 68 STREET
1088594	1926 EAST 14 STREET
1088618	242 EAST 89 STREET
1088651	1888 PITKIN AVENUE

1088670	472 17 STREET
1088700	136 PROSPECT PARK WEST
1088706	390 HALSEY STREET
1088747	3920 LAUREL AVENUE
1088756	556 ALABAMA AVENUE
1088758	883 BEDFORD AVENUE
1088804	1139 BUSHWICK AVENUE
1088863	1553 OCEAN AVENUE
1088919	433 LAFAYETTE AVENUE
1088946	170 SOUTH 1 STREET
1088956	196 GREENPOINT AVENUE
1088965	407 MYRTLE AVENUE
1088997	240 CROWN STREET
1089014	172 TILLARY STREET
1089028	1911 CHURCH AVENUE
1089096	14 LAWTON STREET

22343 rows × 1 columns

In [82]:



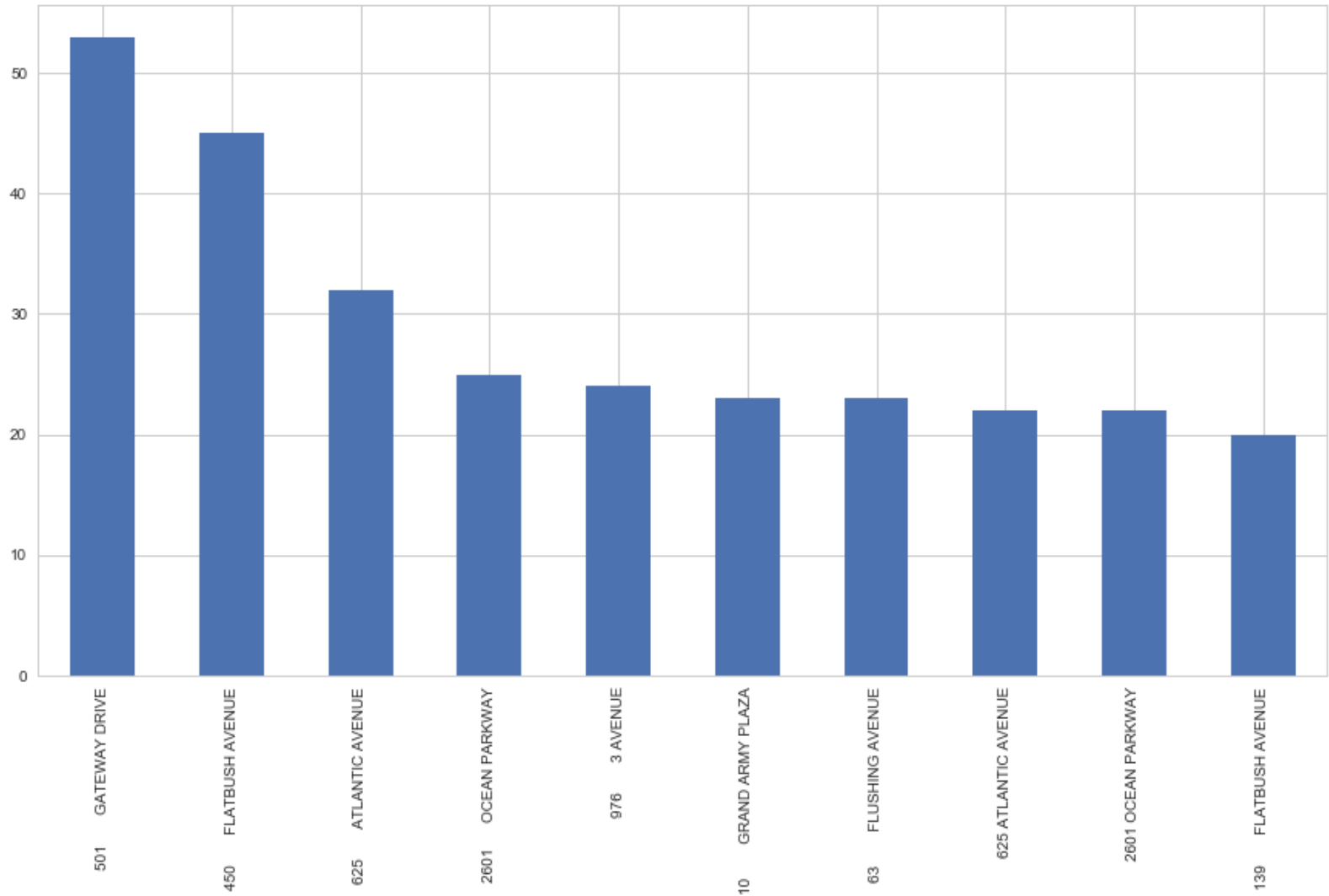
Out[82]:

```
Index(['501 GATEWAY DRIVE', '450 FLATBUSH AVENUE',
      '625 ATLANTIC AVENUE', '2601 OCEAN PARKWAY',
      '976 3 AVENUE', '10 GRAND ARMY PLAZA',
      '63 FLUSHING AVENUE', '625 ATLANTIC AVENUE',
      '2601 OCEAN PARKWAY', '139 FLATBUSH AVENUE'],
      dtype='object')
```

In [83]:

Out[83]:

<matplotlib.axes._subplots.AxesSubplot at 0x119667e10>



In [84]:

In [85]:

Out[85]:

- 1 UTICA AVENUE
- 3 JEFFERSON AVENUE
- 4 FOSTER AVENUE
- 7 LORING AVENUE
- 9 WEST 5 STREET
- 11 EAST 105 STREET
- 18 JUNIUS STREET
- 31 SCHENECTADY AVENUE
- 35 AVENUE I
- 37 LINDEN BOULEVARD
- 39 FLATBUSH AVENUE

43	EVERGREEN AVENUE
45	WILSON AVENUE
47	NORTH 5 STREET
52	16 AVENUE
54	LINDEN BOULEVARD
60	HENDRIX STREET
64	FULTON STREET
66	GERRITSEN AVENUE
68	CORTELYOU ROAD
69	6 AVENUE
76	13 AVENUE
83	4 AVENUE
84	PARADE PLACE
86	61 STREET
87	16 AVENUE
104	AVENUE I
106	53 STREET
116	9 AVENUE
119	GRAND AVENUE

...

1089145	CRAWFORD AVENUE
1089146	EAST 85 STREET
1089147	TROY AVENUE
1089154	BALTIC STREET
1089156	RUSSELL STREET
1089158	67 STREET
1089161	LOUIS PLACE
1089162	FRANKLIN AVENUE
1089168	VERNON AVENUE
1089169	FLUSHING AVENUE
1089170	WOODRUFF AVENUE
1089171	EASTERN PARKWAY
1089172	EAST 38 STREET
1089177	EAST 93 STREET
1089179	CROOKE AVENUE
1089190	TERRACE PLACE
1089192	EAST 10 STREET
1089193	PACIFIC STREET
1089201	SHORE BOULEVARD
1089211	BLAKE AVENUE
1089220	NEW YORK AVENUE
1089229	EAST 105 STREET
1089236	UNION STREET
1089238	EAST 24 STREET
1089242	RIVERDALE AVENUE
1089243	NOSTRAND AVENUE
1089246	LINCOLN PLACE
1089249	EAST 2 STREET
1089257	DITMAS AVENUE
1089264	BROADWAY

Name: cross_street_name, Length: 220984, dtype: object

In [86]:

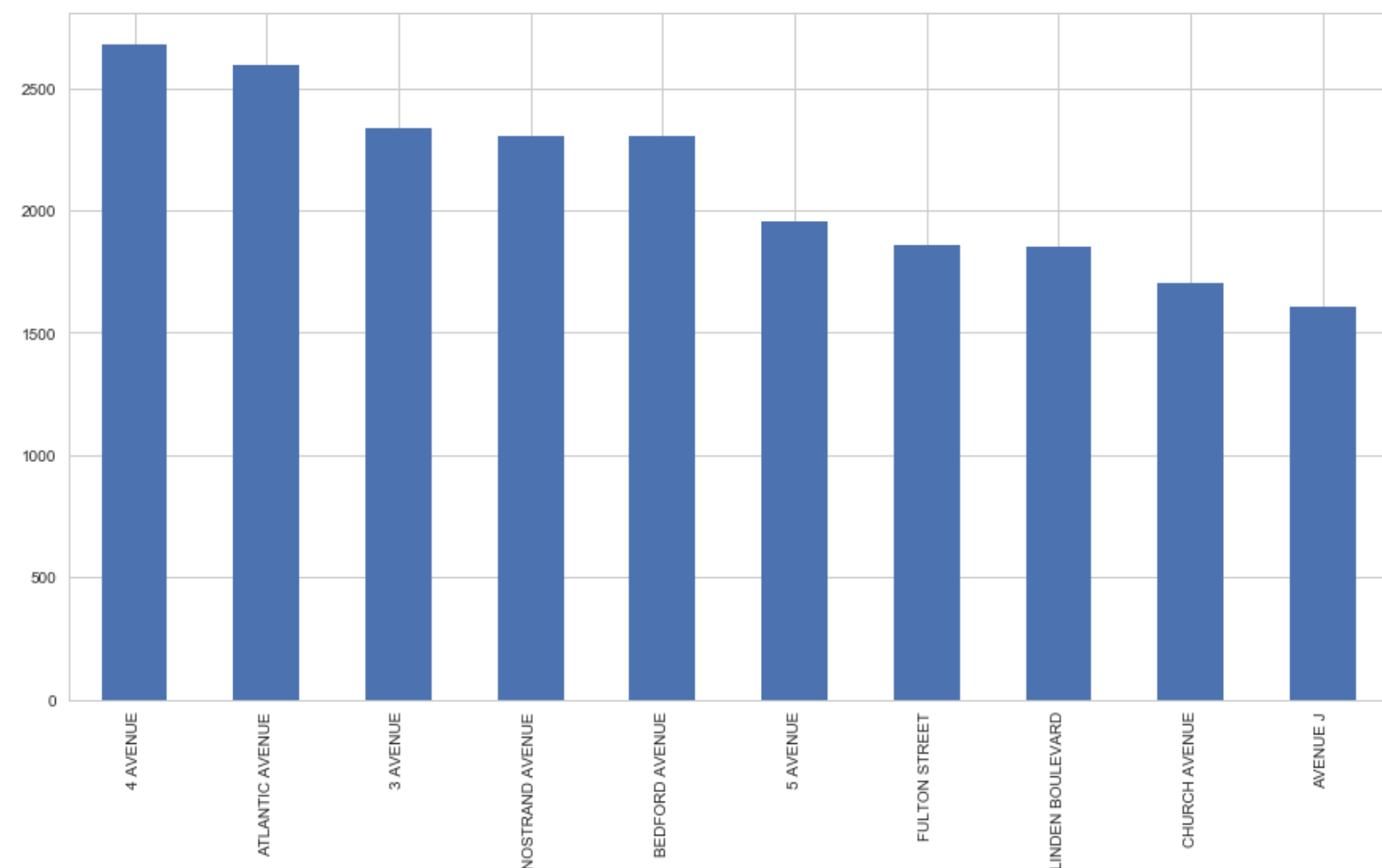
Out[86]:

```
Index(['4 AVENUE', 'ATLANTIC AVENUE', '3 AVENUE', 'NOSTRAND AVENUE',  
      'BEDFORD AVENUE', '5 AVENUE', 'FULTON STREET', 'LINDEN BOULEVAR  
D',  
      'CHURCH AVENUE', 'AVENUE J'],  
      dtype='object')
```

In [180]:

Out[180]:

<matplotlib.axes._subplots.AxesSubplot at 0x12e8c1860>



In [88]:

In [89]:

In [90]:

Out[90]:

contributing_factor_vehicle_1		contributing_f
actor_vehicle_1		
Accelerator Defective		Accelerator De
fective	19	
Aggressive Driving/Road Rage		Aggressive Dri
ving/Road Rage	68	
Alcohol Involvement		Alcohol Involv
ement	196	
Animals Action		Animals Action
24		
Backing Unsafely		Backing Unsafe
ly	1500	
Brakes Defective		Brakes Defecti
ve	54	
Cell Phone (hand-held)		Cell Phone (ha
nd-held)	7	
Cell Phone (hands-free)		Cell Phone (ha
nds-free)	1	

In [91]:

In [147]:

In [148]:

Out[148]:

```
Index(['1 AVENUE', '1 COURT', '1 PLACE', '1 STREET', '10 AVENUE', '10 STREET',
      '100 STREET', '101 STREET', '104 STREET', '11 AVENUE',
      ...,
      'saint johns place', 'schroeders avenue', 'skillman street',
      'south 5th street', 'south conduit blvd', 'south market street',
      ,
      'st edwards street', 'thomas s boyland street', 'utica avenue',
      'west 3rd'],
      dtype='object', name='on_street_name', length=1798)
```

In [145]:

Out[145]:

acc[145]:

ATLANTIC AVENUE	2956
FLATBUSH AVENUE	2123
BEDFORD AVENUE	1410
OCEAN PARKWAY	1404
NOSTRAND AVENUE	1359
CONEY ISLAND AVENUE	1244
3 AVENUE	1181
UTICA AVENUE	1164
4 AVENUE	1099
EASTERN PARKWAY	1073
KINGS HIGHWAY	1070
LINDEN BOULEVARD	1048
OCEAN AVENUE	942
FULTON STREET	932
FLATBUSH AVENUE EXTENSION	881
86 STREET	815
TILLARY STREET	768
BROADWAY	749
65 STREET	744
FLUSHING AVENUE	724
CHURCH AVENUE	724
BUSHWICK AVENUE	716
AVENUE U	700
RALPH AVENUE	643
5 AVENUE	634
PENNSYLVANIA AVENUE	630
METROPOLITAN AVENUE	574
FLATLANDS AVENUE	574
MYRTLE AVENUE	553
ROGERS AVENUE	546

...

SUMNER AVENUE	1
5 ave	1
LANDIS COURT	1
FAIRVIEW PLACE	1
KINGLAND AVENUE	1
THOMAS S BOYLAND STREET	1
MARCUS GARVEY AVENUE	1
south 5th street	1
EVERGREEN AVE	1
FLATBUSH AVE	1
GERALD COURT	1
OLD MILL ROAD	1
W 5th St	1
KRIER PLACE	1
B AVENUE	1
W 3rd St	1
SOUTHGATE COURT	1
JACKSON PLACE	1
BROOKLYN BATTERY TUNNEL	1
20 LANE	1
DAHLGREEN PLACE	1

```
W 9th St 1
RIDGEWOOD PLACE 1
south conduit blvd 1
MC KENNY STREET 1
TENEYCK STREET 1
MORTON STREET 1
DEVON AVENUE 1
SEIGAL STREET 1
VANSICLEN AVENUE 1
Name: on_street_name, Length: 1562, dtype: int64
```

In [168]:

Out[168]:

on_street_name	
3 AVENUE	363
4 AVENUE	376
ATLANTIC AVENUE	827
BEDFORD AVENUE	597
CONEY ISLAND AVENUE	384
EASTERN PARKWAY	442
FLATBUSH AVENUE	632
NOSTRAND AVENUE	528
OCEAN PARKWAY	450
UTICA AVENUE	508

Name: number_of_persons_injured, dtype: int64

In [169]:

Out[169]:

on_street_name	
3 AVENUE	4
4 AVENUE	3
ATLANTIC AVENUE	7
BEDFORD AVENUE	4
CONEY ISLAND AVENUE	2
EASTERN PARKWAY	3
FLATBUSH AVENUE	2
NOSTRAND AVENUE	0
OCEAN PARKWAY	6
UTICA AVENUE	2

Name: number_of_persons_killed, dtype: int64

In [302]:

In [303]:

Out[303]:

cross_street_name	number_of_persons_injured	
1 AVENUE	0	156
	1	12
	2	2
	3	1
1 COURT	0	1
1 PLACE	0	31
	1	6
	2	1
1 STREET	0	87
	1	16

Name: number_of_persons_injured, dtype: int64

In [191]:

In [205]:

Out[205]:

	cross_street_name	on_street_name	off_street_name	number_of_persons_injured	number_of_p
1	UTICA AVENUE	EMPIRE BOULEVARD	NaN	0	
3	JEFFERSON AVENUE	WILSON AVENUE	NaN	0	
4	FOSTER AVENUE	EAST 17 STREET	NaN	4	
7	LORING AVENUE	DREW STREET	NaN	1	
9	WEST 5 STREET	NEPTUNE AVENUE	NaN	0	
11	EAST 105 STREET	FLATLANDS 2 STREET	NaN	0	
14	NaN	NaN	750 54 STREET	0	
18	JUNIUS STREET	EAST NEW YORK AVENUE	NaN	0	
23	NaN	NaN	230 6 AVE	0	
31	SCHENECTADY AVENUE	WINTHROP STREET	NaN	0	

In [300]:

In [304]:

Out[304]:

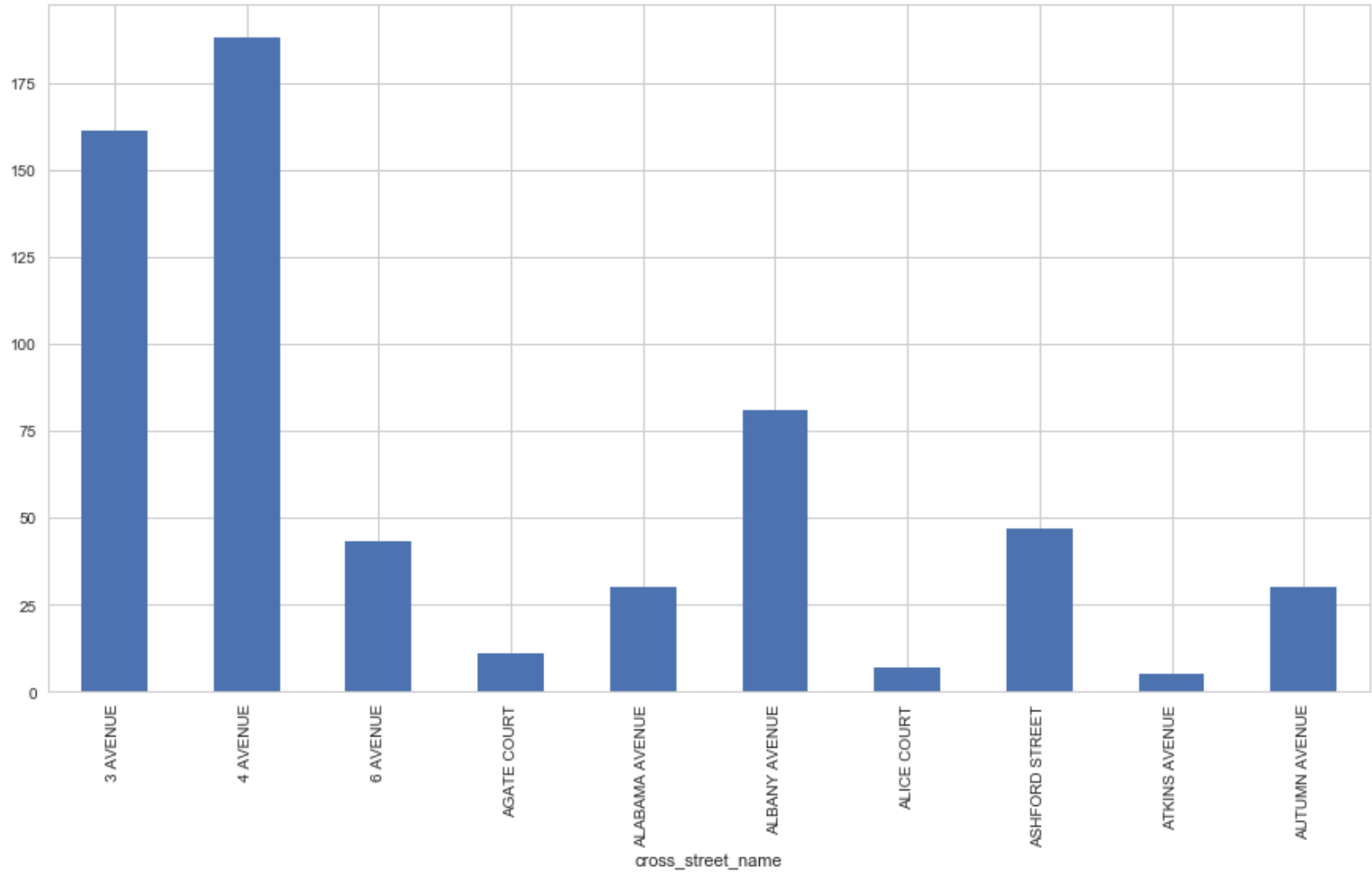
cross_street_name	number_of_persons_injured
1 AVENUE	0 156
	1 12
	2 2
	3 1
1 COURT	0 1
1 PLACE	0 31
	1 6
	2 1
1 STREET	0 87
	1 16

Name: number_of_persons_injured, dtype: int64

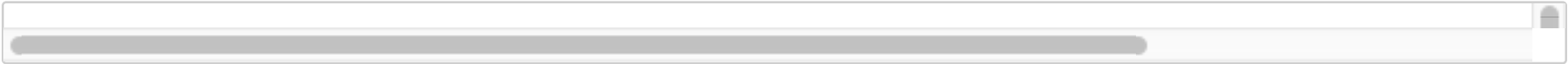
In [313]:

Out[313]:

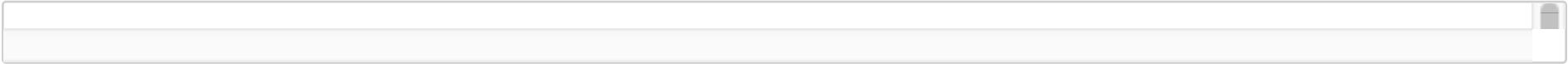
<matplotlib.axes._subplots.AxesSubplot at 0x11bc05828>



In [275]:



In []:



In []:



In []:

