Optimization of WTWY Field Operations

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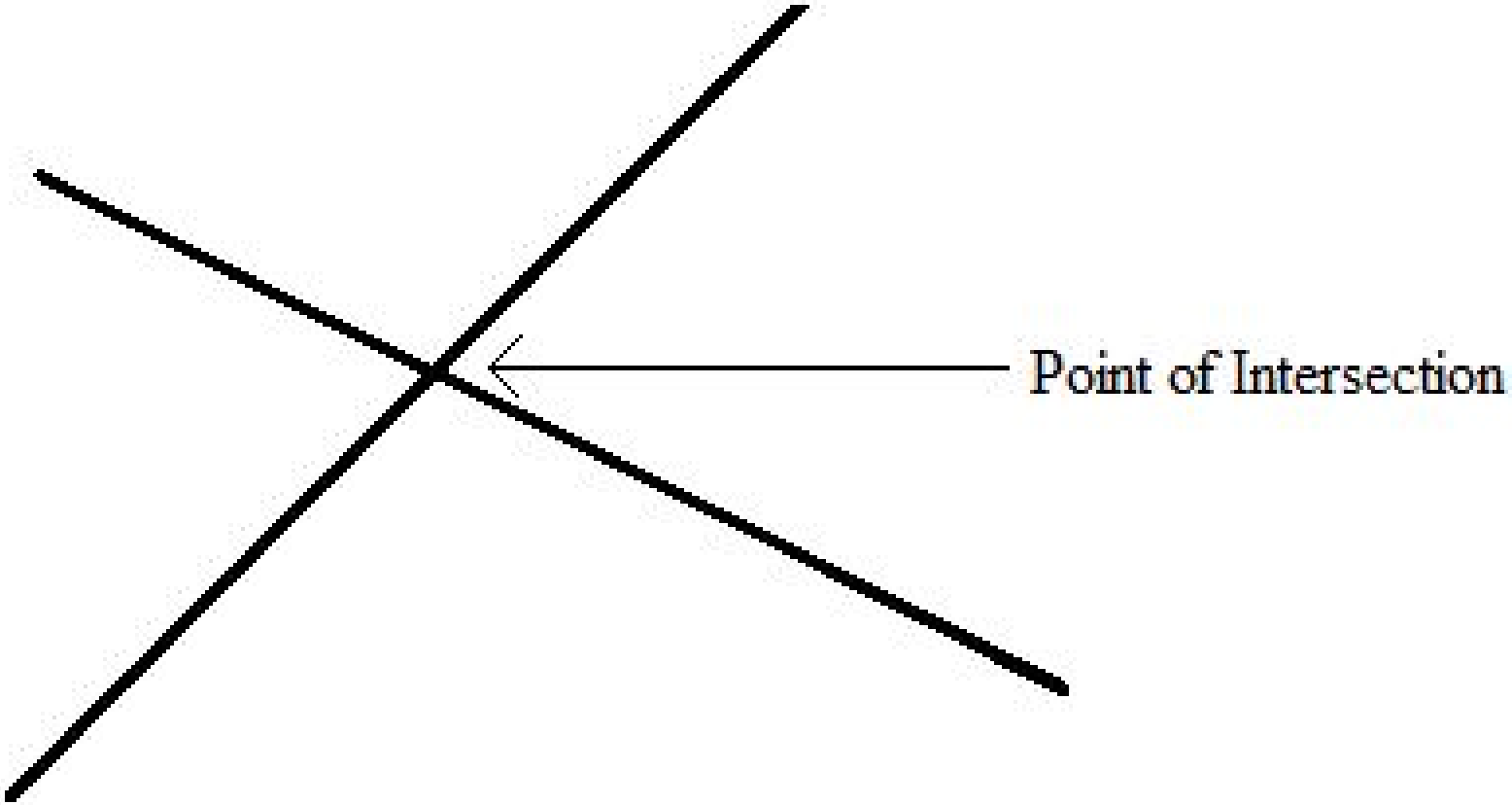
Mission of WTWY - Gala

Executive Summary

- Determine optimal subway stations to deploy street teams in order to maximize:
  - Collection of emails
    - People most likely to attend annual gala
    - People most likely to donate to the WTWY cause
  - Build awareness and reach

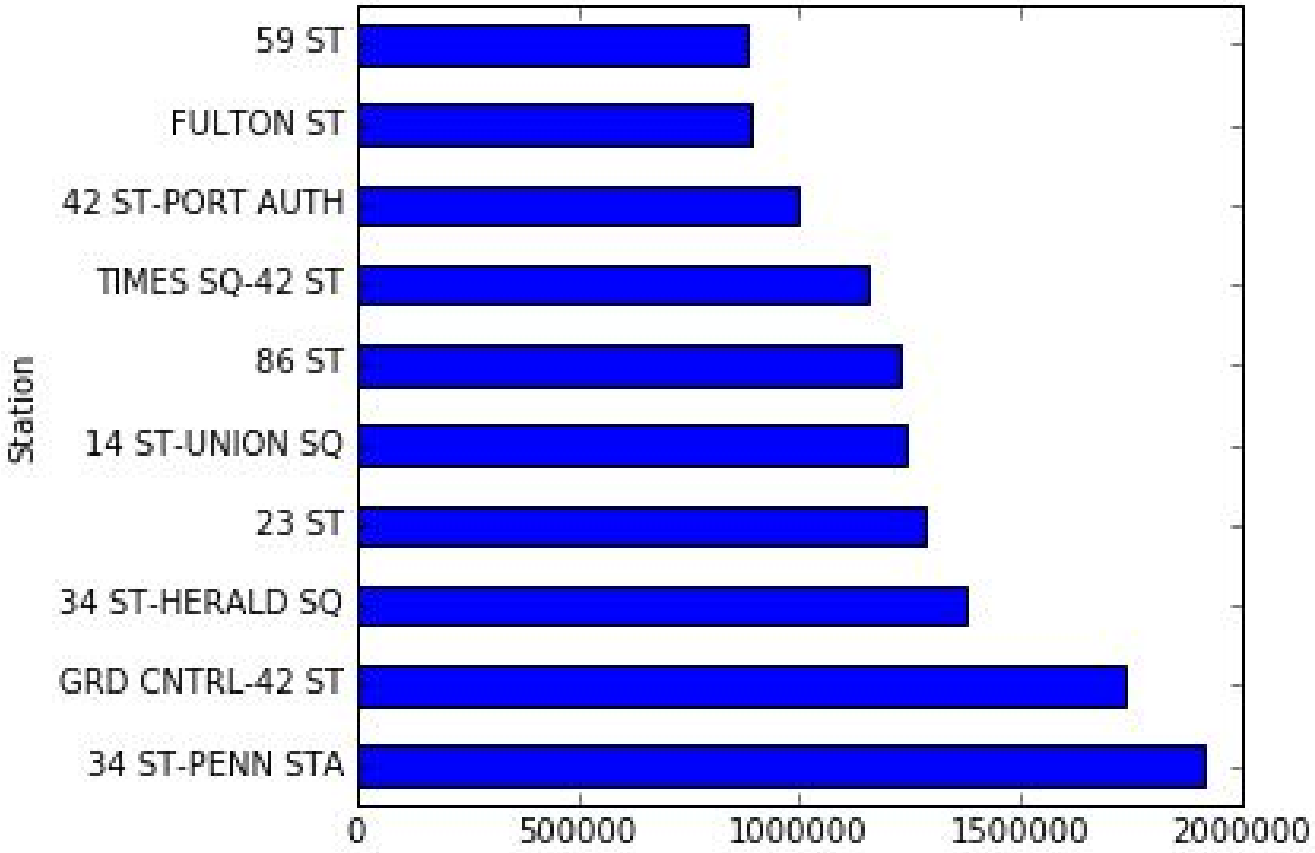
Methodology: Intersection of 4 Variables



Methodology

Intersection of 4 Variables:

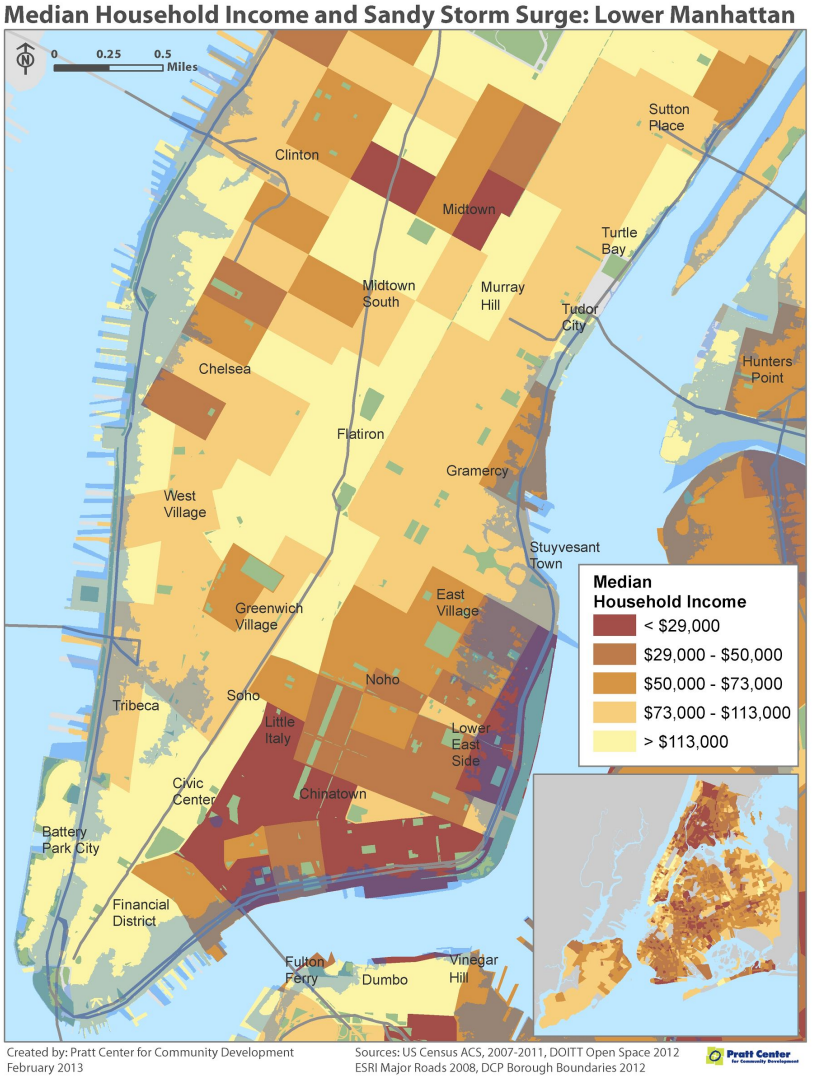
- **Turnstile traffic (MTA Turnstile data)**



Methodology

Intersection of 4 Variables:

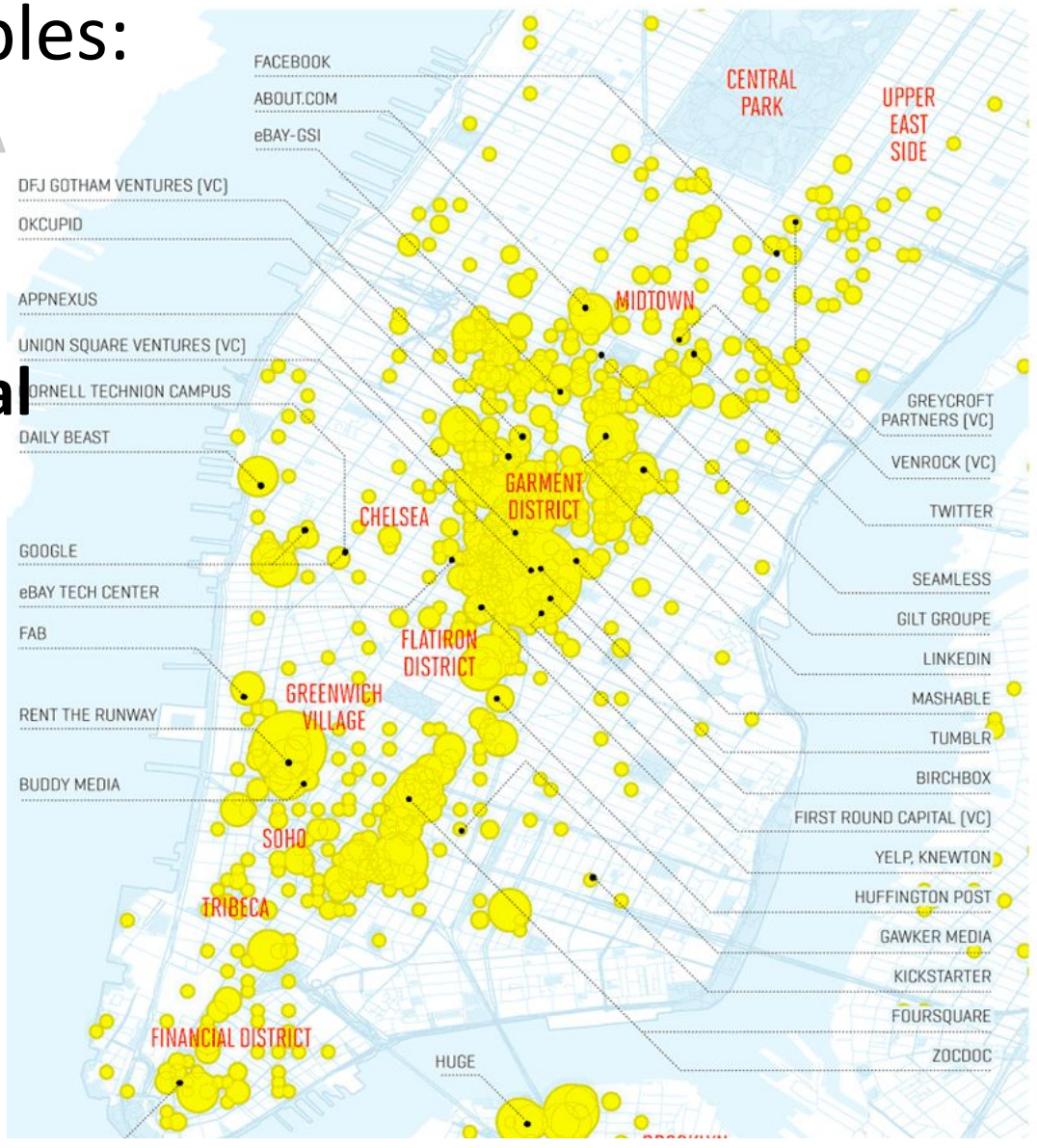
- Turnstile traffic (MTA Turnstile data)
- **Income by Zip Codes (IRS)**



Methodology

Intersection of 4 Variables:

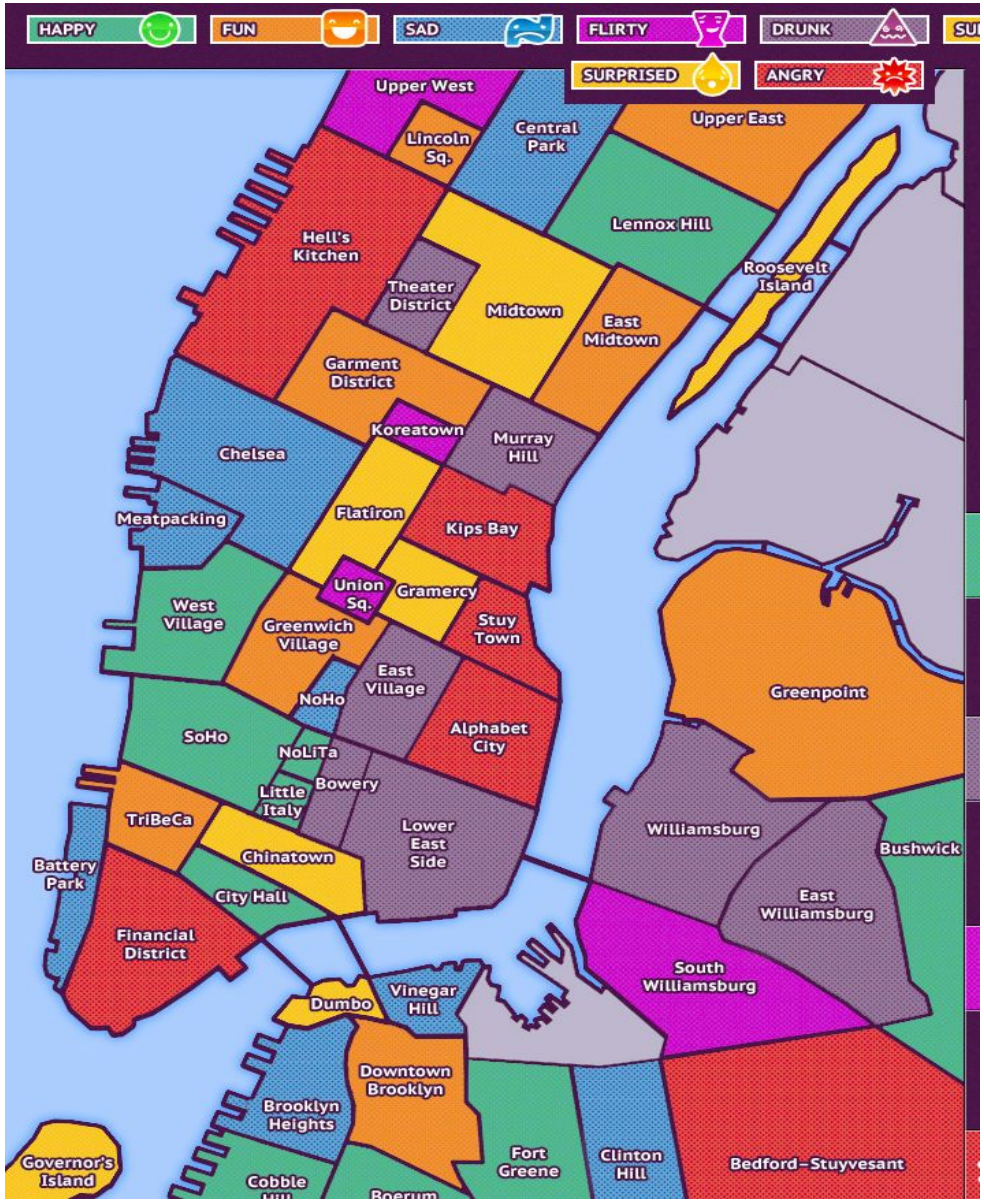
- Turnstile traffic (MTA Turnstile data)
- Income by Zip Codes
- **Tech hotspots (Digital NYC, Businessweek)**



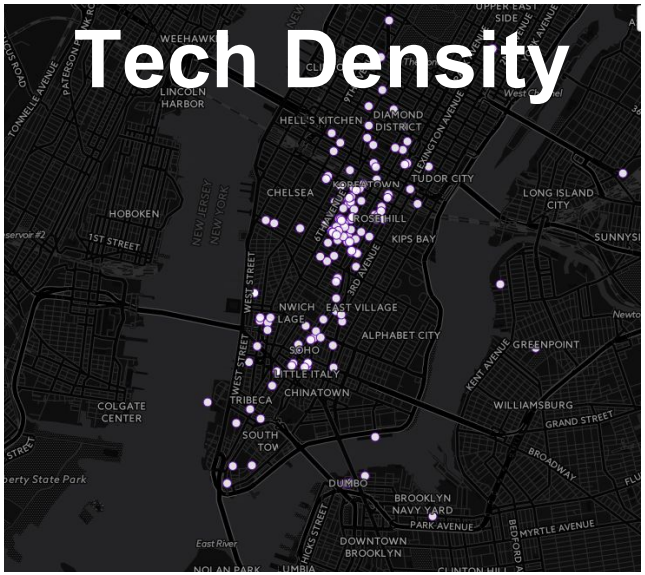
Methodology

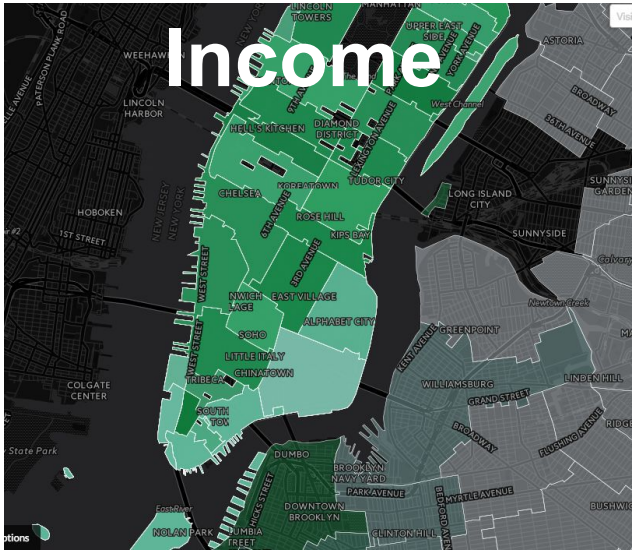
Intersection of 4 Variables:

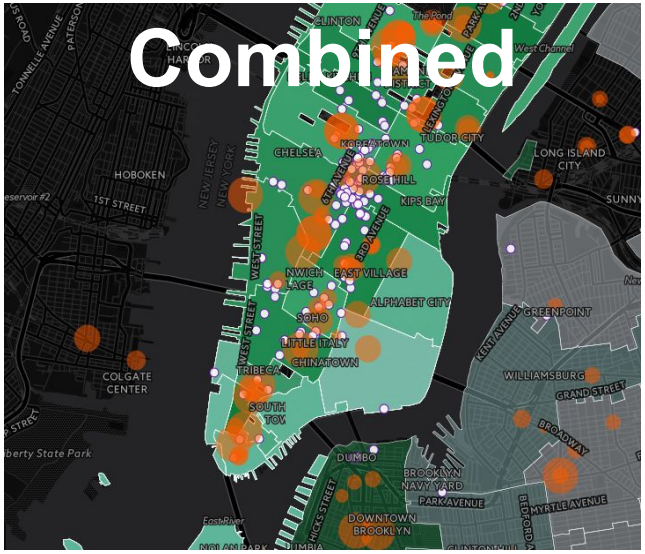
- Turnstile traffic (MTA Turnstile data)
- Income by Zip Codes (IRS)
- Tech hotspots (Digital NYC, Businessweek)
- **Mood Sentiment (Wyst.it)**



Analysis: Combined Data







Sources: CartoDB, OSM, IRS, MTA, Business Week

Looking Forward: Learn then Do

Learn, iteration 1

Look at data

- Weekly traffic counts
- Freq. of top tier income tax payers
- Proximity to tech startups

Make a plan

- Identify top 3 clusters
- Deploy teams during high traffic periods

Do, iteration 1

Deploy field teams to clusters

- Collect signatures / emails **at and** near subway stations
- Identify best stations from a signatures standpoint

Aggregate and assimilate data

Use results from each Learn-Do iteration to conduct other, deeper, & more targeted analyses to optimize field operations

Figure created by Attilo Baghino from Noun Project

Conclusion

- Preliminary hypothesis: Teams will collect more signatures, donations, and build more awareness by deploying teams at or near:
  - High traffic subway stations
  - Affluent neighborhoods
  - Tech density
  - Positive Sentiment
- Based on these criteria, we think **Flatiron**, **Downtown Brooklyn** and **East Village** neighborhoods are the top three areas
- We will refine location evaluation criteria and top deployment areas based on the results of each successive field deployment

Future Investigations I

- Clean up & improvement of existing data
- More Data -> More Robustness
- Quantitative optimization:
  - Traffic within high income areas
  - Traffic proximal to tech hotspots
  - Formalize Tradeoffs across 4 variables
- Geospatial Analysis

Future Investigations II

- Time analysis (Days, hours)
- Mood per hour (twitter/ instagram)
- Time Series Analysis -> Forward Projections
- In-Person Polling (de facto) vs Alternate Outreaches
  - ‘Hijacking’ other Meetup groups (in person, email)
  - Contacting the social / outreach director at..
    - Tech companies (Google, Facebook, Metis, etc…)
    - Incubators / co-work spaces (wework …)
    - Universities (Columbia, NYU, Cornell Tech, etc…)

Appendix

Challenges

- Managing scope
- Merging data sources
- Parsing HTML w/regular expressions
- Exceeding API query limitations

Tuple to Dataframe