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Unpacking a political icon:
"Bike lanes" and orders of indexicality

Michael Miller Yoder & Barbara Johnstone
29 September 2017

bike lanes in Pittsburgh

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bike lanes in Pittsburgh

Photo: Business Insider

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bike lanes in Pittsburgh

Photo: BikePGH

Photo: Business Insider

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Photo: Dayton.com

bike lanes in Pittsburgh

Photo: BikePGH

Photo: Business Insider

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Talk about bike lanes in Pittsburgh

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#SafeFifthForbesNOW

Talk about bike lanes in Pittsburgh

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Photo: WESA

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"Are we still talking about a bike lane here?"

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Motivating questions

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Motivating questions

- How does something as simple as *bike lanes* gather so many associations?

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Motivating questions

- How does something as simple as *bike lanes* gather so many associations?

- Do people with different perspectives on bike lanes argue for/challenge certain associations?

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Indexicality

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- Ability of language to evoke contexts in which it occurs

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- Mapping from linguistic features to (social) context

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Indexical orders

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- Levels of indexical meanings

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- New *indexical orders* build on, compete with existing orders (often ideological)

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Indexical orders

- Levels of indexical meanings

- New *indexical orders* build on, compete with existing orders (often ideological)

- Examples:
  - /ai/ Southern accent
  - T/V distinction

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Data

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Pittsburgh bike lanes corpus

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Pittsburgh bike lanes corpus

Three events:

Pittsburgh bike lanes corpus

Three events:

1. Downtown protected bike lanes (2014)

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Pittsburgh bike lanes corpus

Three events:

1. Downtown protected bike lanes (2014)
2. Dennis Flanagan crash (2016)

Pittsburgh bike lanes corpus

Three events:

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2. Dennis Flanagan crash (2016)
3. Mayoral primary (2017)

Pittsburgh bike lanes corpus

Three events:

1. Downtown protected bike lanes (2014)
2. Dennis Flanagan crash (2016)
3. Mayoral primary (2017)

# documents	40
# tokens	29,534
# instances of *bike lanes*	216

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Pittsburgh bike lanes corpus

Three events:

1. Downtown protected bike lanes (2014)
2. Dennis Flanagan crash (2016)
3. Mayoral primary (2017)

News articles	30
Opinion/blog posts	8
Comment threads	2
#comments	86

Indexical orders applied

Indexical order	Overview	Pro-bike lane use	Anti-bike lane use

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Indexical orders applied

Indexical order	Overview	Pro-bike lane use	Anti-bike lane use
1st	Physical space	Areas on roads for bicycle traffic	Areas on roads taken away from car traffic, parking

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2nd	Functions, effects	Comfort and safety for people traveling by bicycle	Inconvenient for drivers, disrupt traffic flow

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Indexical orders applied

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1st	Physical space	Areas on roads for bicycle traffic	Areas on roads taken away from car traffic, parking
2nd	Functions, effects	Comfort and safety for people traveling by bicycle	Inconvenient for drivers, disrupt traffic flow
3rd	Social identities: characteristics of bike lane users	Young, progressive commuters, but can include recreational riders and families with children	Few young, progressive, white newcomers, not the majority of Pittsburghers, not traditional Pittsburghers

Indexical orders applied

Indexical order	Overview	Pro-bike lane use	Anti-bike lane use
1st	Physical space	Areas on roads for bicycle traffic	Areas on roads taken away from car traffic, parking
2nd	Functions, effects	Comfort and safety for people traveling by bicycle	Inconvenient for drivers, disrupt traffic flow
3rd	Social identities: characteristics of bike lane users	Young, progressive commuters, but can include recreational riders and families with children	Few young, progressive, white newcomers, not the majority of Pittsburghers, not traditional Pittsburghers
4th	Characteristics of a city that includes bike lane users	Tech companies; progressive; modern.	Ignores long-time residents and their interests

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Indexical orders applied

Indexical order	Overview	Example
1st	Physical space	"The city's second protected bike lane is nearing completion. Parallel parking separates the bike lanes from traffic adjacent to Phipps Conservatory. Parking in the bike lane is not legal …"
2nd	Functions, effects	"The fact of the matter is that bike lanes save lives. They help keep Pittsburghers healthy."
3rd	Social identities: characteristics of bike lane users	"While I like bike lanes, not many of us use them" (Welch)
4th	Characteristics of a city that includes bike lane users	"tech companies … ask for safe streets and to be able to ride a bike to work. Twenty-first century cities are being designed so that people don't have to own a car to be able to live and work in a city" (Peduto)

Methods

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Concordance analysis
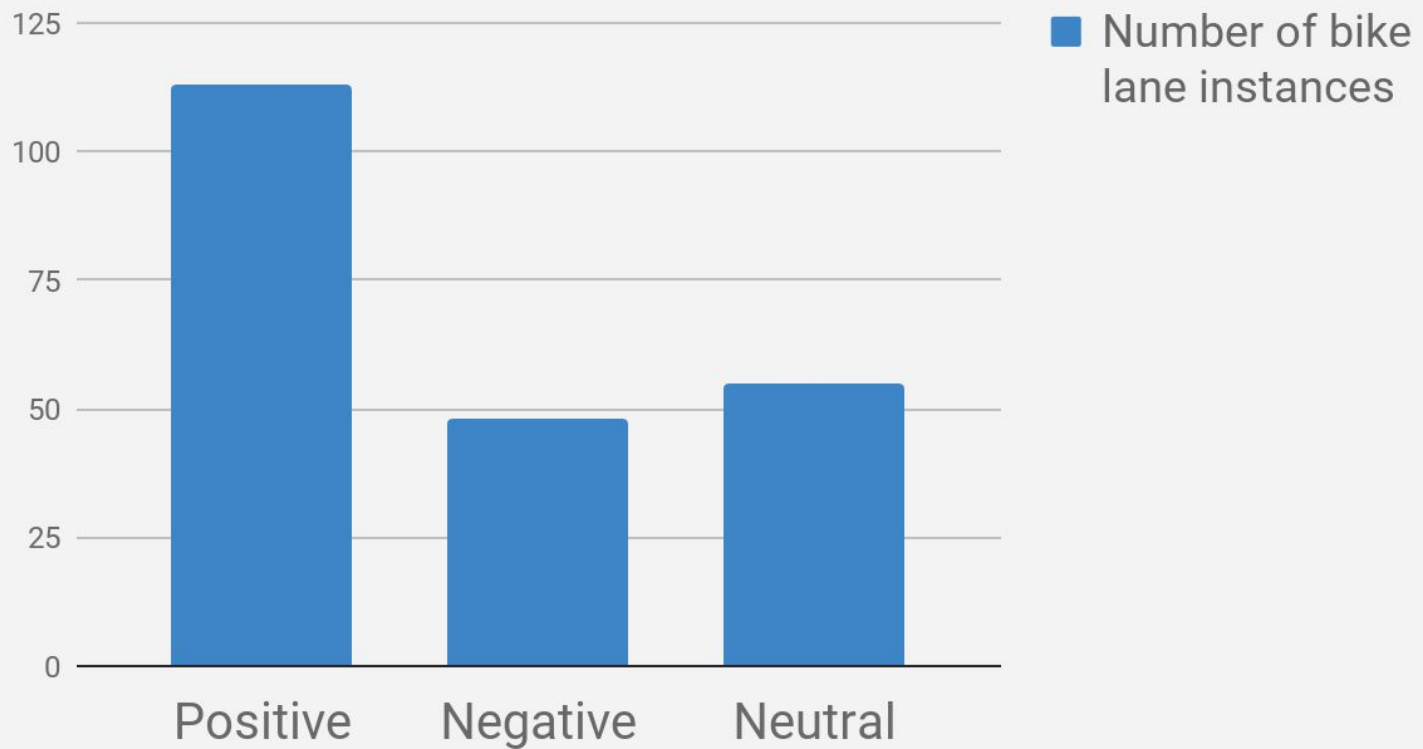
Concordance analysis

- Looked at sentences surrounding each instance of *bike lanes*

Concordance analysis

- Looked at sentences surrounding each instance of *bike lanes*

- Annotated for: **sentiment, indexical order, event**

Concordance analysis

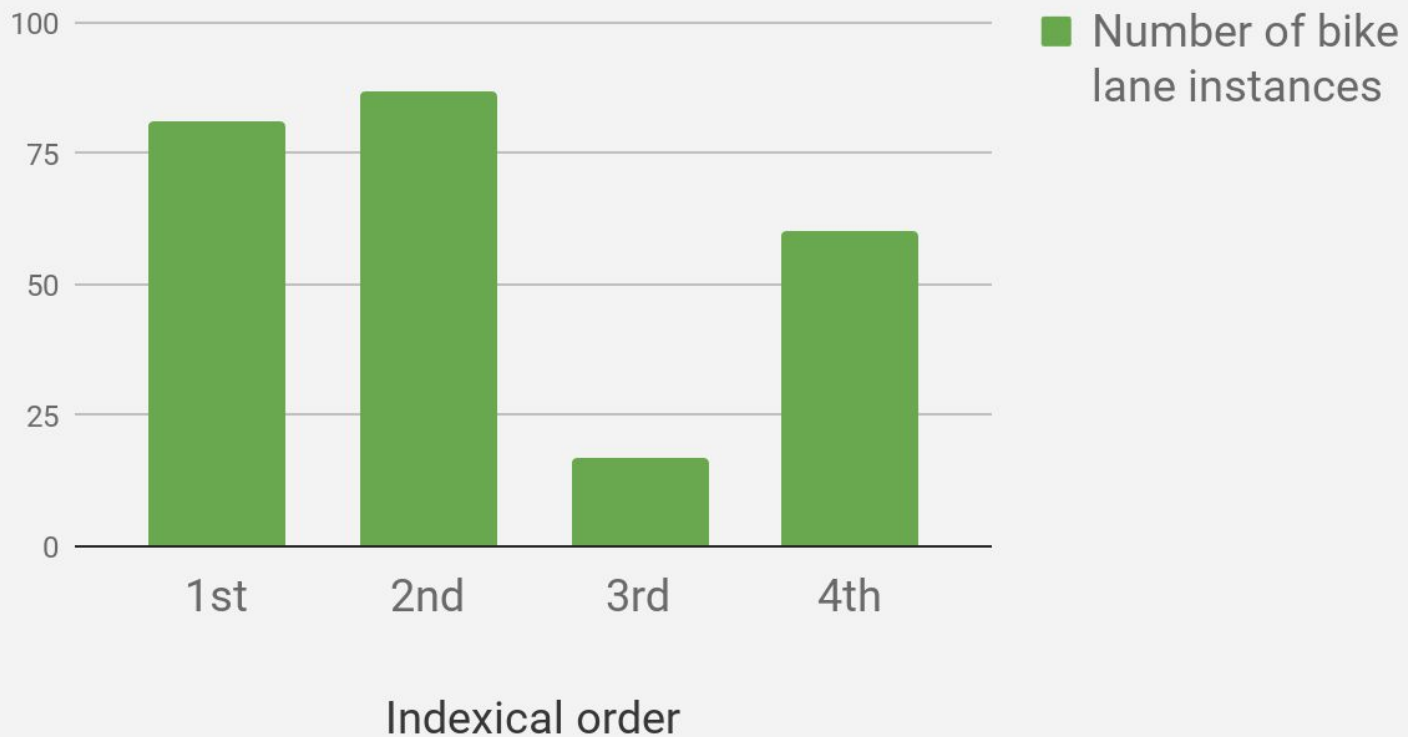Sentiment across bike lane instances

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Concordance analysis

Indexical orders across bike lane instances

Number of bike lane instances

Indexical order

Findings

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Event vs sentiment

Event vs sentiment
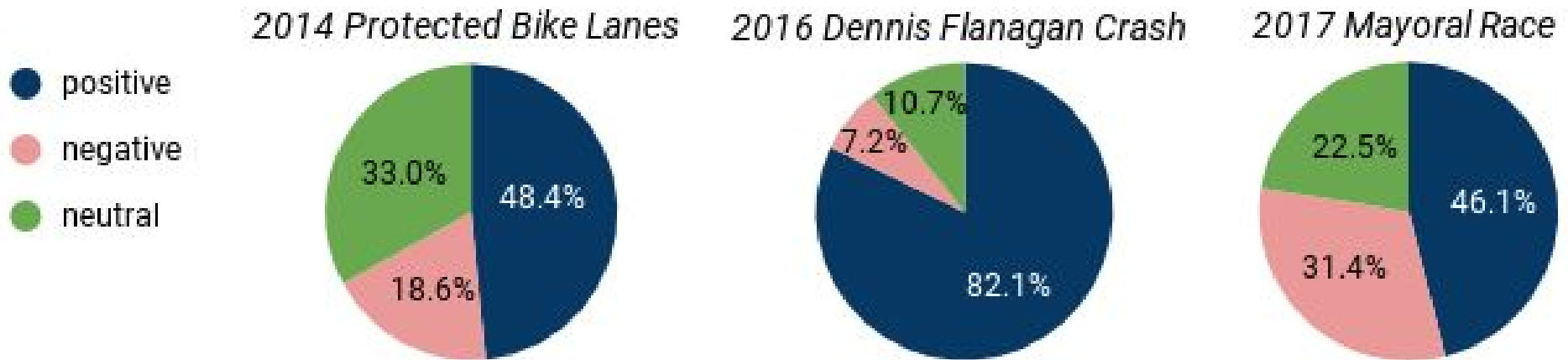
2014 Protected Bike Lanes
- positive: 48.4%
- negative: 18.6%
- neutral: 33.0%

2016 Dennis Flanagan Crash
- positive: 82.1%
- negative: 7.2%
- neutral: 10.7%

2017 Mayoral Race
- positive: 46.1%
- negative: 31.4%
- neutral: 22.5%

Legend: positive, negative, neutral

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Event vs sentiment

- Most positive: crash (bike lanes could save lives)

2014 Protected Bike Lanes
- positive
- negative
- neutral

33.0%
48.4%
18.6%

2016 Dennis Flanagan Crash

10.7%
7.2%
82.1%

2017 Mayoral Race

22.5%
46.1%
31.4%

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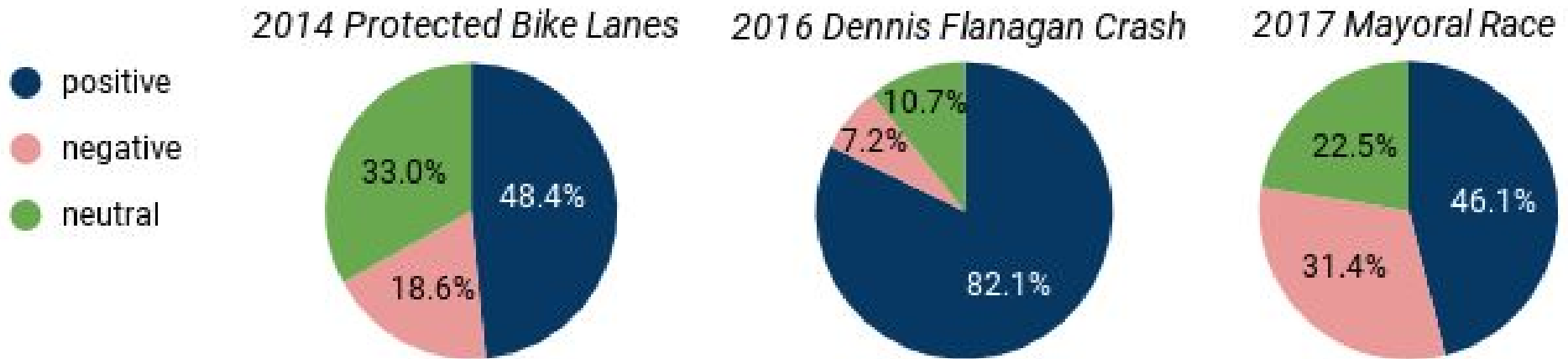
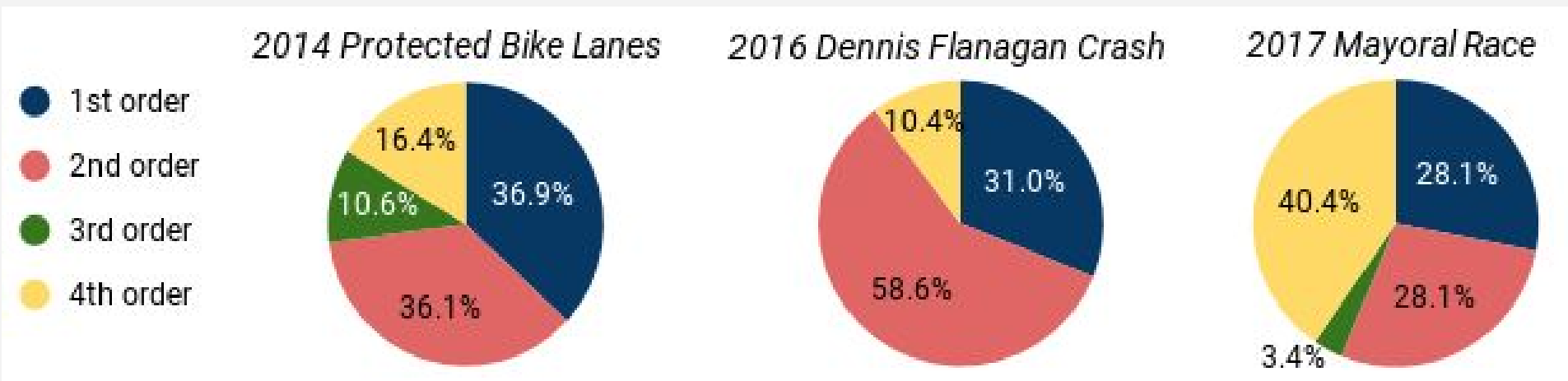# Event vs sentiment

- Most positive: crash (bike lanes could save lives)
- Most negative: mayoral race (bike lanes are unpopular)

legend:
- positive
- negative
- neutral

2014 Protected Bike Lanes
- 48.4%
- 33.0%
- 18.6%

2016 Dennis Flanagan Crash
- 10.7%
- 7.2%
- 82.1%

2017 Mayoral Race
- 46.1%
- 22.5%
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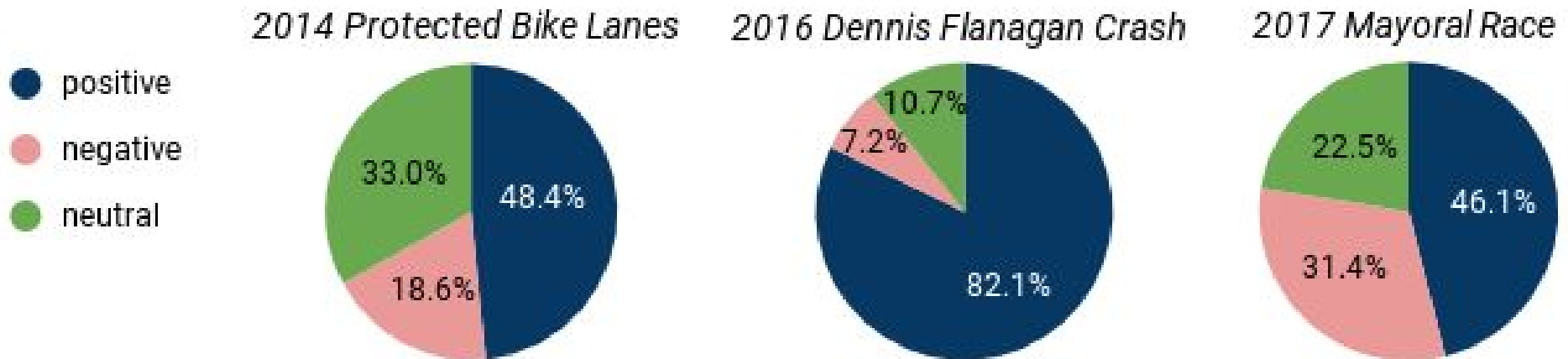
Event vs indexical order

Event vs indexical order

Legend:
- 1st order
- 2nd order
- 3rd order
- 4th order

2014 Protected Bike Lanes
- 36.9%
- 36.1%
- 10.6%
- 16.4%

2016 Dennis Flanagan Crash
- 31.0%
- 58.6%
- 10.4%

2017 Mayoral Race
- 28.1%
- 28.1%
- 3.4%
- 40.4%

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Event vs indexical order

- 1st order: installation of bike lanes

Legend:
- 1st order (dark blue)
- 2nd order (red)
- 3rd order (green)
- 4th order (yellow)

2014 Protected Bike Lanes
- 1st order: 36.9%
- 2nd order: 36.1%
- 3rd order: 10.6%
- 4th order: 16.4%

2016 Dennis Flanagan Crash
- 1st order: 31.0%
- 2nd order: 58.6%
- 4th order: 10.4%

2017 Mayoral Race
- 1st order: 28.1%
- 2nd order: 28.1%
- 3rd order: 3.4%
- 4th order: 40.4%

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Event vs indexical order

- 1st order: installation of bike lanes
- 2nd order: crash

Legend:
- 1st order
- 2nd order
- 3rd order
- 4th order

2014 Protected Bike Lanes
- 16.4%
- 10.6%
- 36.9%
- 36.1%

2016 Dennis Flanagan Crash
- 10.4%
- 31.0%
- 58.6%

2017 Mayoral Race
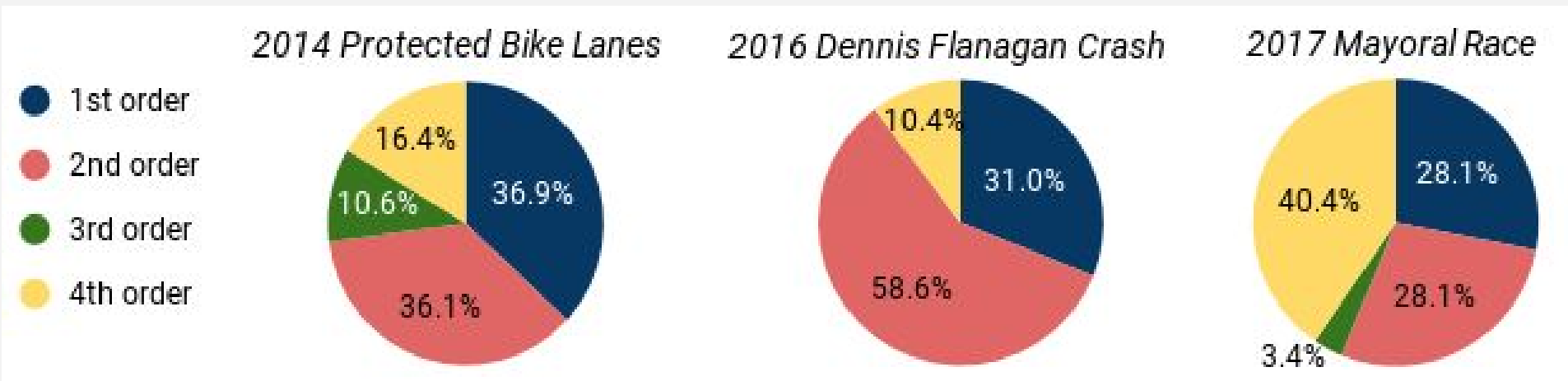- 28.1%
- 40.4%
- 28.1%
- 3.4%

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Event vs indexical order

- 1st order: installation of bike lanes
- 2nd order: crash
- 3nd order: installation of bike lanes (culture change?)

1st order
2nd order
3rd order
4th order

2014 Protected Bike Lanes
16.4%
10.6%
36.9%
36.1%

2016 Dennis Flanagan Crash
10.4%
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58.6%

2017 Mayoral Race
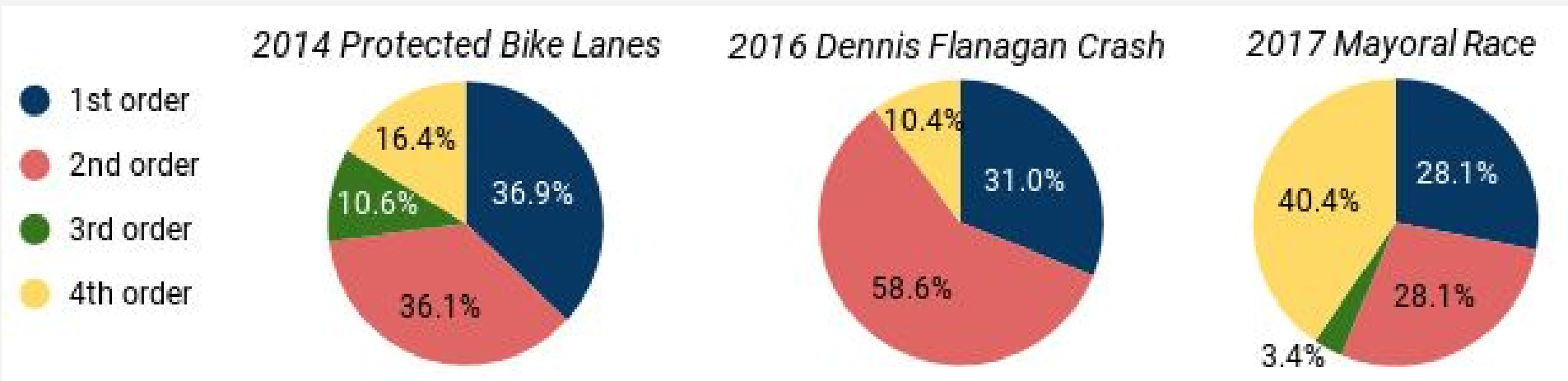40.4%
28.1%
3.4%
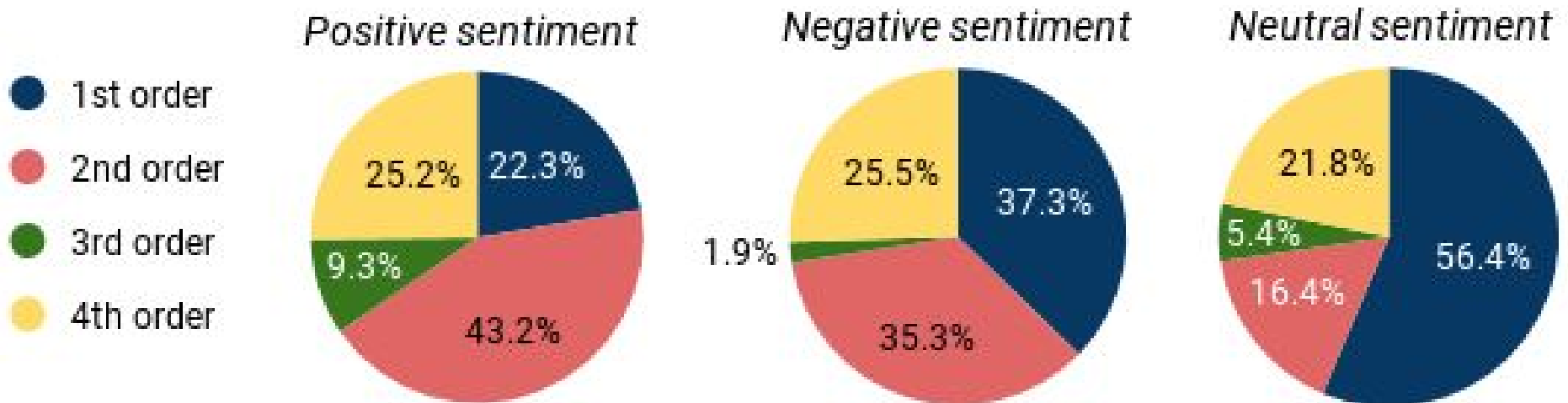28.1%

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Event vs indexical order

- 1st order: installation of bike lanes
- 2nd order: crash
- 3nd order: installation of bike lanes (culture change?)
- 4th order: mayoral race

Legend:
- 1st order
- 2nd order
- 3rd order
- 4th order

2014 Protected Bike Lanes
- 36.9%
- 16.4%
- 10.6%
- 36.1%

2016 Dennis Flanagan Crash
- 31.0%
- 10.4%
- 58.6%

2017 Mayoral Race
- 28.1%
- 40.4%
- 28.1%
- 3.4%

Sentiment vs indexical order

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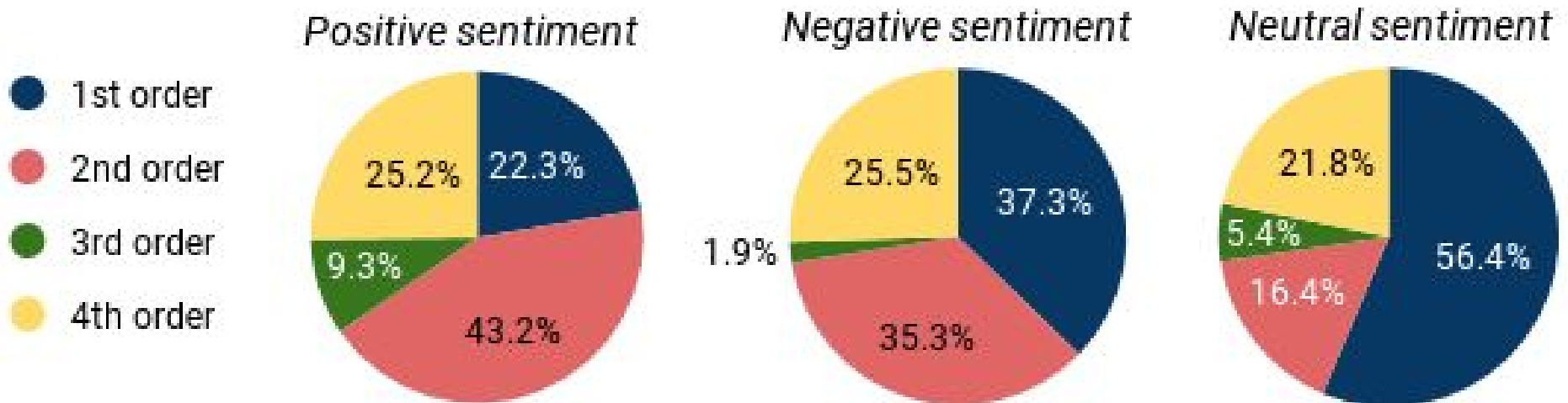
Sentiment vs indexical order

Sentiment vs indexical order

- Positive instances stressing 2nd order (safety)

Positive sentiment

- 1st order: 22.3%
- 2nd order: 43.2%
- 3rd order: 9.3%
- 4th order: 25.2%

Negative sentiment

- 1st order: 37.3%
- 2nd order: 35.3%
- 3rd order: 1.9%
- 4th order: 25.5%

Neutral sentiment

- 1st order: 56.4%
- 2nd order: 16.4%
- 3rd order: 5.4%
- 4th order: 21.8%

Legend:
- 1st order
- 2nd order
- 3rd order
- 4th order

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Sentiment vs indexical order

- Positive instances stressing 2nd order (safety)
- Negative instances operating on 1st order (use of space)

Legend:
- 1st order
- 2nd order
- 3rd order
- 4th order

Positive sentiment
- 22.3% (1st order)
- 43.2% (2nd order)
- 9.3% (3rd order)
- 25.2% (4th order)

Negative sentiment
- 37.3% (1st order)
- 35.3% (2nd order)
- 1.9% (3rd order)
- 25.5% (4th order)

Neutral sentiment
- 56.4% (1st order)
- 16.4% (2nd order)
- 5.4% (3rd order)
- 21.8% (4th order)

Conclusion

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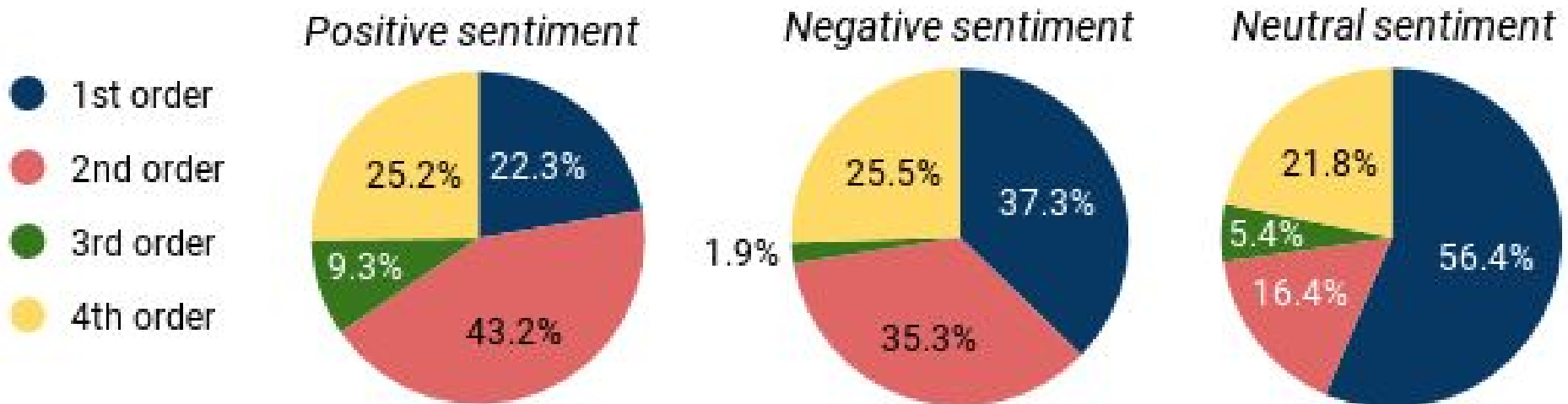
Questions, revisited

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  > *Use in different discursive contexts, different orders of indexicality*

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Questions, revisited

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- Do people with different perspectives on bike lanes argue for/challenge certain associations?

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Questions, revisited

- How does something as simple as *bike lanes* gather so many associations?
  > *Use in different discursive contexts, different orders of indexicality*

- Do people with different perspectives on bike lanes argue for/challenge certain associations?
  > *Text from different groups reinforce bike lanes in indexical orders conducive to their argument*

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Thank you!

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