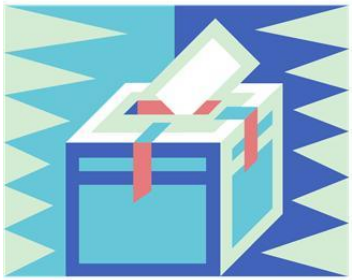
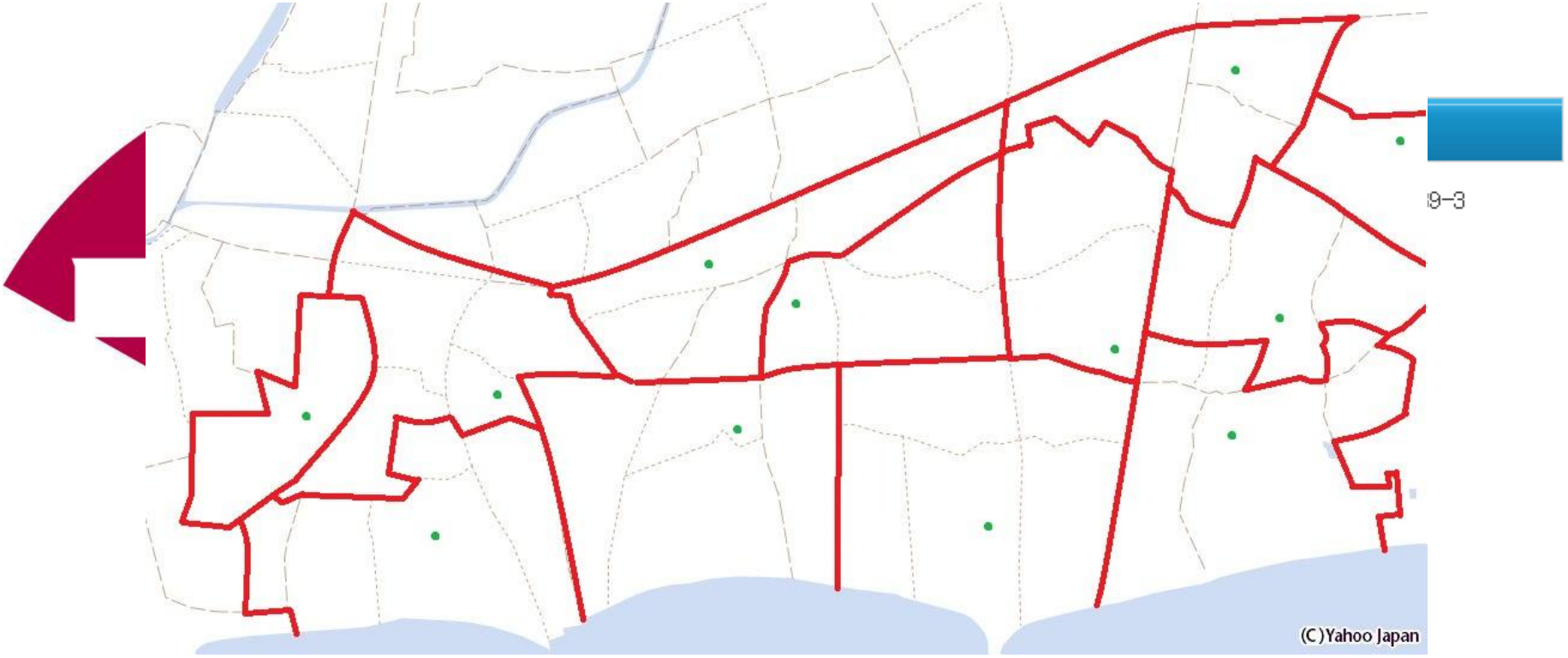
投票区・投票所再配置問題に対する数理的アプローチの提案
～茅ヶ崎市を例として～



根本研究室　14期生
A8p21165　宮野雄太

研究概要・背景

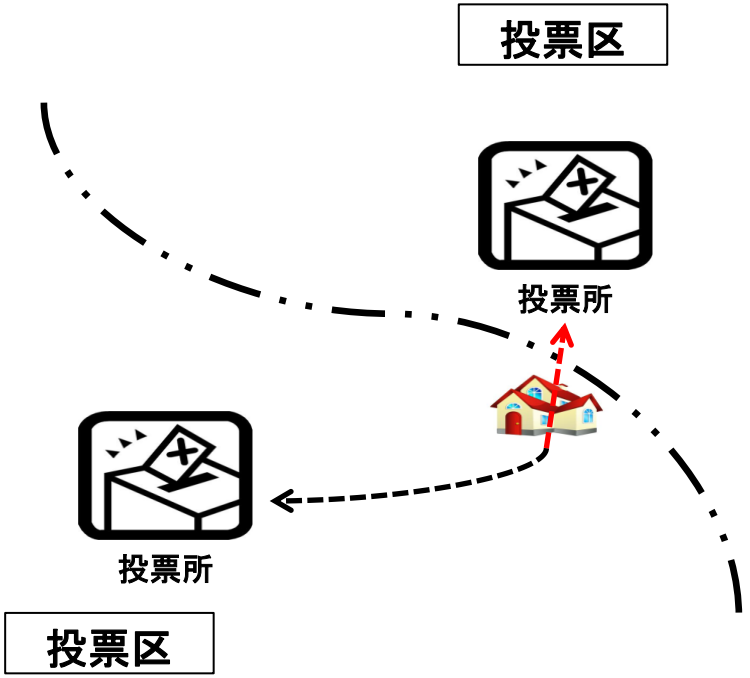


住民の移動を考慮した投票区と投票所の配置を提案

目次

- 数理的アプローチの提案
  - P-メディアン問題
- 茅ヶ崎市への適用
  - ネットワークの表現
  - 定式化
  - 適用と比較
- 今後の課題

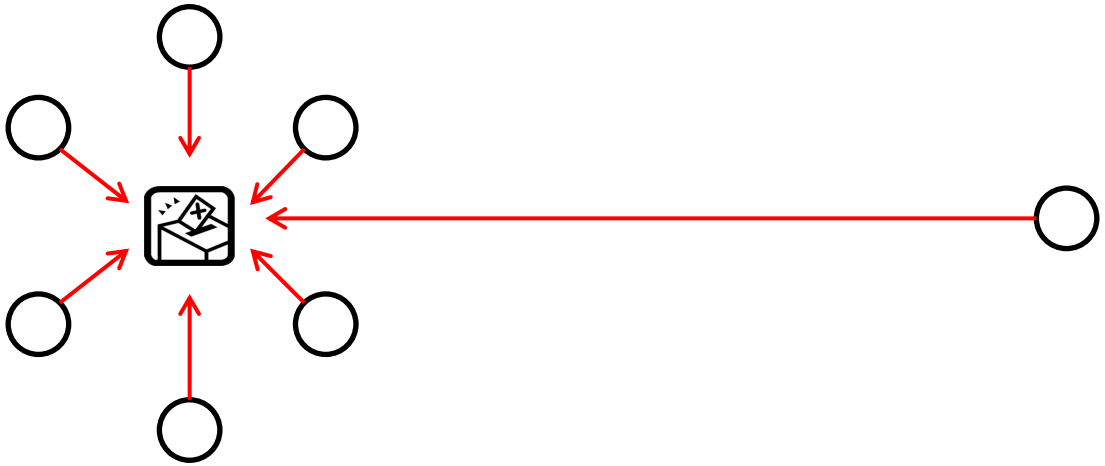
数理的アプローチの提案



P-メディアン問題を利用し,総移動距離を比べる

P-メディアン問題

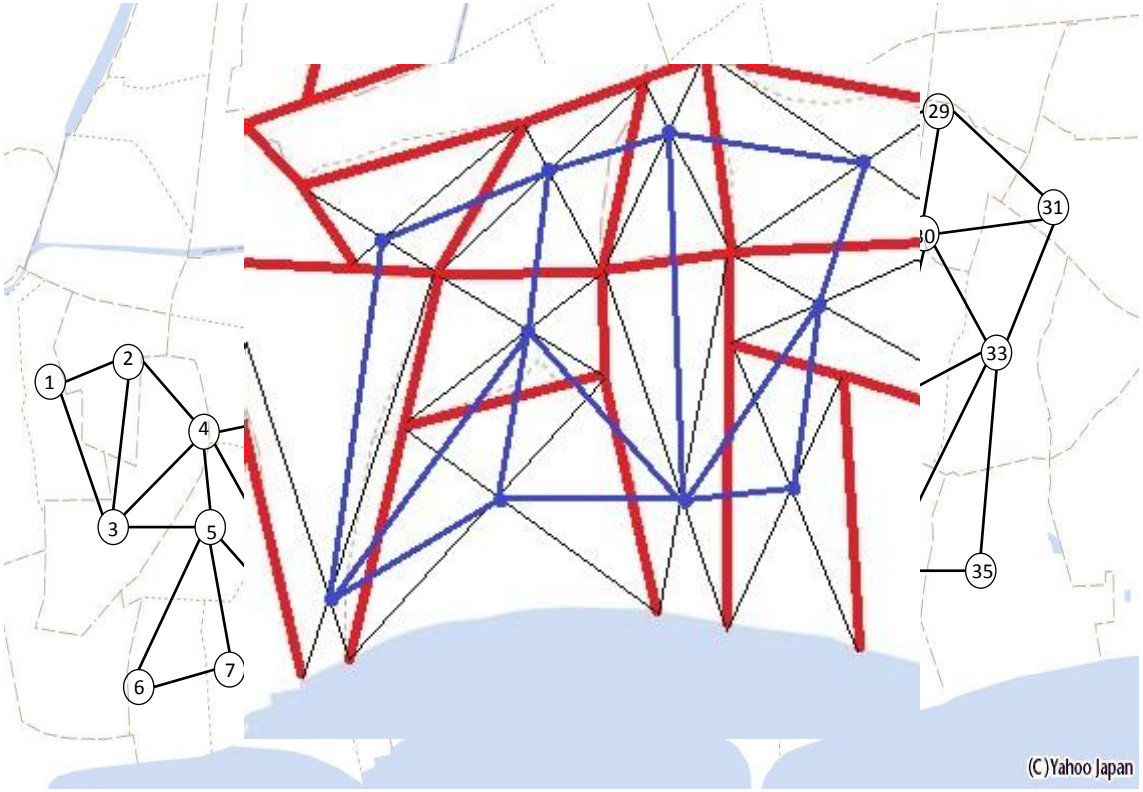
需要ノードとノードが割り当てられる施設間の**移動総距離を最小化**する問題



茅ヶ崎市への適用・検証①

ネットワークの表現

最短路を求める



茅ヶ崎市への適用・検証②

定式化

pmd2.lp - メモ帳

ファイル(F) 編集(E) 書式(O) 表示(V) ヘルプ(H)

```
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```
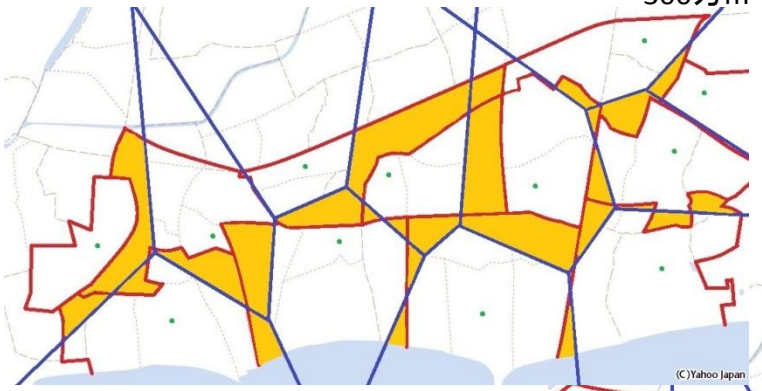

茅ヶ崎市への適用・検証③

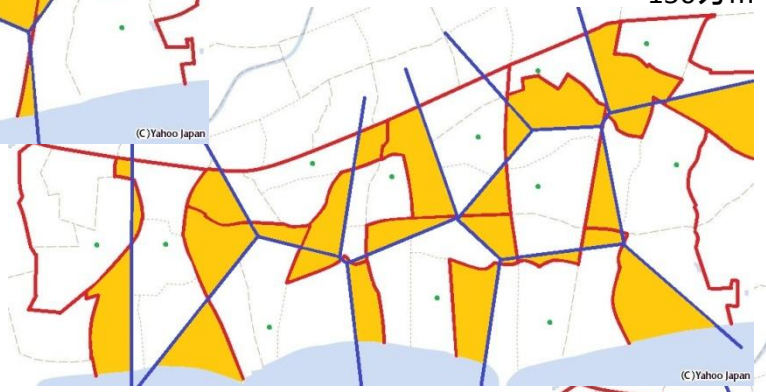
適用と比較

どの程度移動距離は縮まったか

300万m



150万m



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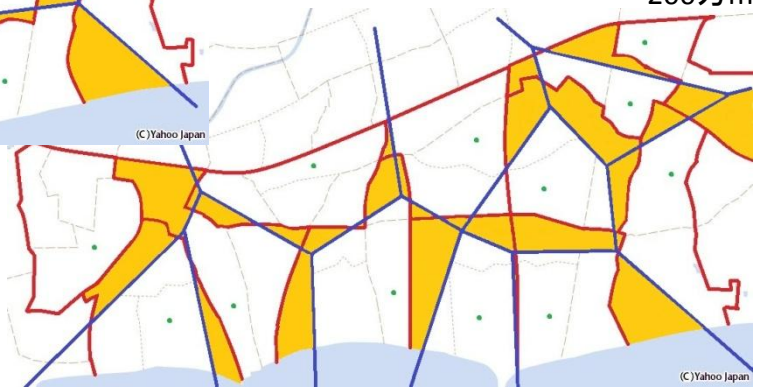

今後の課題

- 適用範囲の拡大
  - 道路･線路横断などの負荷の考慮
- 厳密な値と制約の利用
- 評価基準の制定