Subject
Analyze intra region urban area commutes.

Purpose
This is a preliminary analysis triggered by the new Census methodology that incorporates LEHD data to determine appropriateness of lumping or separating urban areas.

Dependencies
- commute
- tl_2017_us_uac10
- tl_2019_us_county
- tl_2020_17_tabblock10
- tl_2020_29_tabblock10
SELECT "j_a"."year",
        "j_a"."jobs_total" AS "jobs_total_alton",
        "w_a"."workers_total" as "workers_total_alton",
        "c_a_sl"."workers_egress" AS "workers_egress_st_louis",
        "c_a_a"."jobs_local" AS "workers_remain_alton",
        "c_sl_a"."workers_ingress" AS "workers_ingress_st_louis"
FROM {
SELECT "od"."year", SUM("od"."jobs_total") AS "jobs_total"
FROM "commute" AS "od"
WHERE "od"."type_code" = 'JT00' AND "od"."year" IN ('2016', '2017', '2018')
    AND "od"."workplace_geocode" IN (SELECT "t"."geoid10"
                                  FROM "tl_2020_17_tabblock10" AS "t"
                                  INNER JOIN (SELECT "geom" FROM "tl_2017_us_uac10" WHERE "geoid10" = '01765') AS "ua"
                                  ON ST_INTERSECTS("ua"."geom", "t"."geom")
                              )
GROUP BY "od"."year"
) AS "j_a"
INNER JOIN (SELECT "od"."year", SUM("od"."jobs_total") AS "workers_total"
              FROM "commute" AS "od"
              WHERE "od"."type_code" = 'JT00' AND "od"."year" IN ('2016', '2017', '2018')
              AND "od"."residence_geocode" IN (SELECT "t"."geoid10"
                                                 FROM "tl_2020_17_tabblock10" AS "t"
                                                 INNER JOIN (SELECT "geom" FROM "tl_2017_us_uac10" WHERE "geoid10" = '01765') AS "ua"
                                                 ON ST_INTERSECTS("ua"."geom", "t"."geom")
                                            )
          )
GROUP BY "od"."year"
) AS "w_a" ON "j_a"."year" = "w_a"."year"
INNER JOIN (  
    SELECT "od"."year", SUM("od"."jobs_total") AS "workers_egress"
    FROM "commute" AS "od"
    WHERE "od"."type_code" = 'JT00' AND "od"."year" IN ('2016','2017','2018')
    AND "od"."residence_geocode" IN (  
        SELECT "t"."geoid10"
        FROM "tl_2020_17_tabblock10" AS "t"
        INNER JOIN (SELECT "geom" FROM "tl_2017_us_uac10" WHERE "geoid10" = '01765') AS "ua"
        ON ST_INTERSECTS("ua"."geom", "t"."geom")
    )
    AND "od"."workplace_geocode" IN (  
        SELECT "t"."geoid10"
        FROM (  
            SELECT "geoid10", "geom" FROM "tl_2020_17_tabblock10"
            UNION
            SELECT "geoid10", "geom" FROM "tl_2020_29_tabblock10"
            ) AS "t"
        INNER JOIN (SELECT "geom" FROM "tl_2017_us_uac10" WHERE "geoid10" = '77770') AS "ua"
        ON ST_INTERSECTS("ua"."geom", "t"."geom")
    )
GROUP BY "od"."year"
) AS "c_a_sl" ON "j_a"."year" = "c_a_sl"."year"
INNER JOIN (  
SELECT "od"."year", SUM("od"."jobs_total") AS "jobs_local"
FROM "commute" AS "od"
WHERE "od"."type_code" = 'JT00' AND "od"."year" IN ('2016','2017','2018')
AND "od"."residence_geocode" IN (  
SELECT "t"."geoid10"
FROM "tl_2020_17_tabblock10" AS "t"
INNER JOIN (SELECT "geom" FROM "tl_2017_us_uac10" WHERE "geoid10" = '01765') AS "ua"
ON ST_INTERSECTS("ua"."geom", "t"."geom")
)
AND "od"."workplace_geocode" IN (  
SELECT "t"."geoid10"
FROM "tl_2020_17_tabblock10" AS "t"
INNER JOIN (SELECT "geom" FROM "tl_2017_us_uac10" WHERE "geoid10" = '01765') AS "ua"
ON ST_INTERSECTS("ua"."geom", "t"."geom")
)
GROUP BY "od"."year"
) AS "c_a_a" ON "j_a"."year" = "c_a_a"."year"
INNER JOIN (SELECT "od"."year", SUM("od"."jobs_total") AS "workers_ingress"
FROM "commute" AS "od"
WHERE "od"."type_code" = 'JT00' AND "od"."year" IN ('2016','2017','2018')
AND "od"."residence_geocode" IN (SELECT "t"."geoid10"
FROM (SELECT "geoid10", "geom" FROM "tl_2020_17_tabblock10"
UNION
SELECT "geoid10", "geom" FROM "tl_2020_29_tabblock10"
) AS "t"
INNER JOIN (SELECT "geom" FROM "tl_2017_us_uac10" WHERE "geoid10" = '77770') AS "ua"
ON ST_INTERSECTS("ua"."geom", "t"."geom")
)
AND "od"."workplace_geocode" IN (SELECT "t"."geoid10"
FROM "tl_2020_17_tabblock10" AS "t"
INNER JOIN (SELECT "geom" FROM "tl_2017_us_uac10" WHERE "geoid10" = '01765') AS "ua"
ON ST_INTERSECTS("ua"."geom", "t"."geom")
)
GROUP BY "od"."year"
) AS "c_sl_a" ON "j_a"."year" = "c_sl_a"."year"

ORDER BY "j_a"."year";