

**RSPM Research #788**  
**TFL ESTIMATED MODELS**

**May 2017**  
intercept  
Other Modules  
Average Annual Daily VMT  
Regionwide variables  
US Census Region (CENSUS\_R: 01="NE",  
"02"="MW", "03"="S", "04"="W")  
Transit miles per cap  
Fwy lane miles per cap  
Arterial lane miles per cap

Synthetic HH variables

- HH Size
- Worker Count
- Income
- Driving Age Pop
- Vehicles Per Driver
- Age0to14
- Age65Plus
- Life Cycle  
(Single, Young Couple, Couple with children, Empty Nester)
- Dwelling Unit Type (SFD, Dplx, Apt2-4 units, Apt5+ units)

HOME BUILT ENVIRONMENT/5Ds

5Ds: DENSITY

- DUs/unprotected acre (SLD: D1A )
- Pop/unprotected acre (SLD: D1B)
- Emp/unprotected acre (SLD: D1C)
- Emp + DUs/unprotected acre (SLD: D1D)
- Census tract pop density (TRPOPDEN)
- Urbanized Area Emp density(UZAEMPDEN)

5Ds: DIVERSITY/ENTROPY  
Emp & HH entropy (SLD: D2A\_EPHHM)  
D1B \* D2A\_EPHHM

5Ds: DESIGN

Lane mile ped-oriented density/sqmi (SLD: D3apo)

Intersection density-4+ leg multi-modal/sqmi (SLD: D3bmm4 )

Intersection density-4+ leg ped-oriented/sqmi (SLD: D3bpo4)

5Ds: TRANSIT

- %CBG employment within ½ mile of fixed-guideway transit stop (SLD: D4b050)
- D4c (PM Peak transit svc hrly freq within 1/4 mile of block group boundary)
- Regionwide Transit miles per cap\*D4c

5Ds: ACCESSIBILITY

- Emp within 45 minutes auto (SLD: D5ar)
- Ratio Emp Auto Accessibility vs Total MSA (SLD: D5cr)
- Harmonic mean of Emp within 2 miles and Pop within 5 miles (ACCESS)
- Emp within 5 mile of blockgroup centroid (EMPTOT 5)

[illegible]

Notes/Possible Modifications

An alternative is census district\*  
Use bus-equivalent miles per capita

Will test using licensed drivers instead

Will use blockgroup density wherever possible

Will use entropy derived from HH & EMP (total and Ret/Svc)

Will investigate possible composite measure of these three Design measures

Can drop without significant effects on goodness-of-fit or accuracy in validation

Measure used in block group Place Types,

Will use ACCESS (as defined in block group Place Types, below) wherever possible

Measure used in block group Place Types,

\*Alternative to Census R, Census D: '01'='New England', '02'='Middle Atlantic', '03'='East North Central', '04'='West North Central', '05'='South Atlantic', '06'='East South Central', '07'='West South Central', '08'='Mountain', '09'='Pacific'