

A12 Chelmsford to A120 widening scheme

TR010060

7.2 Transport Assessment

Appendix A: Junction Modelling Results Summary

APFP Regulation 5(2)(q)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed
Forms and Procedure) Regulations 2009

Volume 7

August 2022

Infrastructure Planning

Planning Act 2008

A12 Chelmsford to A120 widening scheme

Development Consent Order 202[]

7.2 TRANSPORT ASSESSMENT

APPENDIX A: JUNCTION MODELLING RESULTS SUMMARY

| | |
|-----------------------------------------------|-------------------------------------|
| Regulation Reference | Regulation 5(2)(q) |
| Planning Inspectorate Scheme Reference | TR010060 |
| Application Document Reference | TR010060/APP/7.2 |
| Author | A12 Project Team, National Highways |

| Version | Date | Status of Version |
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| Rev 1 | August 2022 | DCO Application |

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Junction Modelling Results Summary – A12 junctions

| Junction | | Software (key statistic used) | Current operation 2019 | | Construction phase 2025 | | | Future operation, without scheme 2027 | | Future operation, without scheme 2042 | | Future operation, with scheme 2027 | | Future operation, with scheme 2042 | |
|--------------------------------------------------------------------------------------------|---------------------------------|-------------------------------|--------------------------------------------------------|---------------------|--------------------------------------------|-------------------------|---------------------|--------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------------------|------------------------------------|---------------------|------------------------------------|---------------------|
| | | | Weekday 07:30-08:30 | Weekday 17:00-18:00 | Weekday 07:00-08:00 | Weekday Ave 10:00-16:00 | Weekday 17:00-18:00 | Weekday 07:30-08:30 | Weekday 17:00-18:00 | Weekday 07:30-08:30 | Weekday 17:00-18:00 | Weekday 07:30-08:30 | Weekday 17:00-18:00 | Weekday 07:30-08:30 | Weekday 17:00-18:00 |
| A12 J19 | Generals Lane Roundabout (West) | Vissim (LOS) | N/A | | E | C | D | E | D | N/A - not assessed | | C | B | C | C |
| | Generals Farm Roundabout (East) | Vissim (LOS) | N/A (current layout is changing to developer's layout) | | F | C | F | F | E | N/A - not assessed | | C | C | C | C |
| | Boreham Interchange (South) | Vissim (LOS) | N/A | | F | D | E | F | E | N/A - not assessed | | C | B | C | C |
| A12 J20a off-slip (junction between B1137 The Street and Bury Lane) | | PICADY (RFC) | 0.49 | 0.90 | N/A (no construction traffic expected) | | | N/A - (don't need to compare as not assessed in future 'with scheme' scenario) | | N/A (J20a removed as part of scheme) | | | | | |
| A12 J20a on-slip (right turn from B1137 The Street onto slip-road) | | PICADY (RFC) | 0.93 | 0.55 | N/A (no construction traffic expected) | | | N/A - (don't need to compare as not assessed in future 'with scheme' scenario) | | N/A (J20a removed as part of scheme) | | | | | |
| A12 J20b off-slip (Eastern arm of B1019 Maldon Rd / B1137 The Street) | | Vissim (LOS) | C | B | D | A | C | N/A - (don't need to compare as not assessed in future 'with scheme' scenario) | | N/A (J20b removed as part of scheme) | | | | | |
| A12 J21 (existing layout) (give-way junctions on B1389 north of NB on-slip) | | PICADY (RFC) | N/A - (only small number of right turning vehicles) | | 0.38 | 0.11 | 0.4 | N/A - (don't need to compare as not assessed in future 'with scheme' scenario) | | N/A (J21 moved to new location as part of scheme) | | | | | |
| A12 J21 (new layout) | Northern Dumbbell | Vissim (LOS) | N/A | | N/A | | | N/A (new junction which doesn't exist yet) | | A | A | B | C | | |
| | Southern Dumbbell | Vissim (LOS) | N/A | | N/A | | | N/A (new junction which doesn't exist yet) | | A | A | A | A | | |
| A12 J22 (new layout) | Eastern Dumbbell | Vissim (LOS) | N/A | | N/A | | | N/A (new junction which doesn't exist yet) | | A | A | A | A | | |
| | Western Dumbbell | Vissim (LOS) | N/A | | N/A | | | N/A (new junction which doesn't exist yet) | | C | C | C | C | | |
| A12 J23 (existing layout) (give-way junctions between B1024 London Road and Cranes Lane) | | PICADY (RFC) | N/A - (only small number of right turning vehicles) | | 0.04 | 0.04 | 0.55 | N/A - (don't need to compare as not assessed in future 'with scheme' scenario) | | N/A (J23 removed as part of scheme) | | | | | |
| A12 J24 (existing layout) (give-way junction between northbound and southbound slip roads) | | PICADY (RFC) | N/A - (only small number of right turning vehicles) | | 0.02 | 0.06 | 0.03 | N/A - (don't need to compare as not assessed in future 'with scheme' scenario) | | N/A (J24 moved to new location as part of scheme) | | | | | |
| A12 J24 (new layout) | Western Dumbbell | Vissim (LOS) | N/A | | N/A | | | N/A (new junction which doesn't exist yet) | | A | A | A | A | | |
| | Eastern Dumbbell | Vissim (LOS) | N/A | | N/A | | | N/A (new junction which doesn't exist yet) | | A | A | A | A | | |
| | Inworth Road Roundabout | Vissim (LOS) | N/A | | N/A | | | N/A (new junction which doesn't exist yet) | | A | A | A | A | | |
| A12 J25 | Western Roundabout | Vissim (LOS) | C | C | C | C | E | C | E | D | F | C | D | D | D |
| | Eastern Roundabout | Vissim (LOS) | A | A | B | A | B | B | B | C | B | A | A | B | B |
| | London Road Roundabout | Vissim (LOS) | N/A - (new junction which doesn't exist yet) | | N/A (new junction which doesn't exist yet) | | | N/A (new junction which doesn't exist yet) | | A | A | A | A | | |

Key showing operating condition:

| RFC (ARCADY/ PICADY) | | PRC (LinSig) | | LOS (Vissim) | |
|----------------------|----------------------|--------------|----------------------|--------------|----------------------------|
| >1 | Over capacity | <0% | Over capacity | F | Worst operating conditions |
| 0.85-1 | Approaching capacity | 0%-15% | Approaching capacity | E | |
| <0.85 | Under capacity | >15% | Under capacity | D | |
| | | | | C | |
| | | | | B | |
| | | | | A | Best operating conditions |

Junction Modelling Results Summary – Local road junctions

| Junction | Software (key statistic used) | Current operation 2019 | | Construction phase 2025 | | | Future operation, without scheme 2027 | | Future operation, without scheme 2042 | | Future operation, with scheme 2027 | | Future operation, with scheme 2042 | |
|----------------------------------------------------------------------|-------------------------------|----------------------------------------------|---------------------|-----------------------------------------------|-------------------------|---------------------|-----------------------------------------------|---------------------|-----------------------------------------------|---------------------|------------------------------------|---------------------|------------------------------------|---------------------|
| | | Weekday 07:30-08:30 | Weekday 17:00-18:00 | Weekday 07:00-08:00 | Weekday Ave 10:00-16:00 | Weekday 17:00-18:00 | Weekday 07:30-08:30 | Weekday 17:00-18:00 | Weekday 07:30-08:30 | Weekday 17:00-18:00 | Weekday 07:30-08:30 | Weekday 17:00-18:00 | Weekday 07:30-08:30 | Weekday 17:00-18:00 |
| B1019 Maldon Rd / B1137 The Street (Hatfield Peverel) | Vissim (LOS) | C | C | D | B | D | C | D | D | D | C | C | D | C |
| B1023 Inworth Rd / B1024 Feering Hill aka "Gore Pit" (near Kelvedon) | PICADY (RFC) | 1.15 | 0.96 | N/A (no construction traffic expected) | | | 1.46 | 1.45 | 1.74 | 1.76 | 0.83 | 1.18 | 1.12 | 1.44 |
| B1024 Station Rd / B1024 High St (Kelvedon) | PICADY (RFC) | 0.69 | 0.40 | N/A (no construction traffic expected) | | | 0.91 | 0.81 | 1.01 | 0.93 | 0.58 | 0.67 | 0.64 | 0.74 |
| B1023 Kelvedon Rd / B1022 Maldon Rd (Tiptree) | ARCADY (RFC) | 0.70 | 0.80 | N/A (no construction traffic expected) | | | 0.72 | 0.94 | 0.79 | 1.04 | 0.66 | 0.93 | 0.68 | 1.03 |
| B1408 London Rd / School Rd (Copford) | PICADY (RFC) | 0.18 | 0.21 | N/A (no construction traffic expected) | | | 0.20 | 0.23 | 0.35 | 0.27 | 0.32 | 0.26 | 0.39 | 0.29 |
| B1137 Main Road / Church Road (Boreham) | PICADY (RFC) | 0.39 | 0.31 | N/A (no construction traffic expected) | | | 0.44 | 0.34 | 0.50 | 0.40 | 0.50 | 0.36 | 0.41 | 0.46 |
| B1137 Main Road / Plantation Road (Boreham) | PICADY (RFC) | 0.43 | 0.46 | N/A (no construction traffic expected) | | | 0.47 | 0.51 | 0.55 | 0.60 | 0.72 | 0.62 | 0.98 | 0.70 |
| B1137 Main Road / Waltham Road (Boreham) | PICADY (RFC) | 1.47 | 1.13 | N/A (no construction traffic expected) | | | 0.74 | 0.48 | 1.87 | 1.80 | 0.73 | 0.42 | 1.70 | 1.16 |
| Rivenhall End west roundabout | ARCADY (RFC) | N/A - (new junction which doesn't exist yet) | | N/A (new junction which doesn't exist yet) | | | N/A (new junction which doesn't exist yet) | | N/A (new junction which doesn't exist yet) | | 0.56 | 0.46 | 0.59 | 0.49 |
| Rivenhall End east roundabout | ARCADY (RFC) | N/A - (new junction which doesn't exist yet) | | N/A (new junction which doesn't exist yet) | | | N/A (new junction which doesn't exist yet) | | N/A (new junction which doesn't exist yet) | | 0.30 | 0.17 | 0.32 | 0.18 |
| Rivenhall End - Henry Dixon Road | LinSig (PRC) | N/A - (new junction which doesn't exist yet) | | N/A (new junction which doesn't exist yet) | | | N/A (new junction which doesn't exist yet) | | N/A (new junction which doesn't exist yet) | | 30.0% | 31.7% | 6.0% | 10.3% |
| Eastways, near junction 22 | LinSig (PRC) | 10.2% | -8.4% | -18.4% | 45.8% | -28.8% | 1.7% | -33.5% | -0.6% | -42.9% | 20.0% | -12.4% | 17.5% | -22.4% |

Key showing operating condition:

| RFC (ARCADY/ PICADY) | | PRC (LinSig) | | LOS (Vissim) | |
|----------------------|----------------------|--------------|----------------------|--------------|----------------------------|
| >1 | Over capacity | <0% | Over capacity | F | Worst operating conditions |
| 0.85-1 | Approaching capacity | 0%-15% | Approaching capacity | E | |
| <0.85 | Under capacity | >15% | Under capacity | D | |
| | | | | C | |
| | | | | B | |
| | | | | A | Best operating conditions |