

Project:	<b>National Highways Spatial Planning Contract 2021-2024</b>	Job No:	<b>60659714 / Q13DDX110.011</b>
Subject:	<b>Tendring Colchester Borders Garden Community Mode Share Targets Report Review</b>		
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## Executive Summary

AECOM have conducted a review, on behalf of National Highways, of the 'Transport Evidence Part 1: Mode Share Targets Report' (MSTR) (February 2023) prepared by Integrated Transport Planning Limited (ITP), who were commissioned by Essex County Council (ECC), Tendring District Council (TDC), and Colchester City Council (CCC). The MSTR has been prepared as evidence for the proposed Tendring Colchester Borders Garden Community (TCBGC). Following this review, AECOM make the following recommendations.

### Recommendations regarded as critical to the acceptability of this development:

1. A benchmarking exercise should be undertaken which assesses the mode shares *achieved* by garden communities or similar scale developments in order to understand whether the targets proposed are achievable. (Paragraph 3.6)
2. The mitigation measures (if any) for each of the case study developments used in the benchmarking exercise should be identified. (Paragraph 3.6 and Paragraph 5.3)
3. AECOM and Jacobs should liaise to discuss the Mode Share Model spreadsheet tool used, so as to provide AECOM with a better understanding of the tool. (Paragraph 4.5)
4. Alternative mode share targets that establish the likely mode share if the residents of TCBGC move into their homes prior to the main infrastructure interventions being implemented should be identified as a sensitivity test. This is so that there is no risk of underestimating the level of vehicle trips likely to use the SRN. (Paragraph 5.4)

### Recommendations regarded as important but not critical to the acceptability of this development:

5. A copy of the case study framework development from the Transport and Movement Framework should be provided to National Highways for review. (Paragraph 3.1)
6. National Highways should be consulted on at each upcoming stage of the development. (Paragraph 7.1)

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## 1. Introduction

- 1.1. AECOM have prepared this Technical Note (TN07) on behalf of National Highways, to document a review of the 'Transport Evidence Part 1: Mode Share Targets Report' (MSTR) (February 2023) prepared by Integrated Transport Planning Limited (ITP), who were commissioned by Essex County Council (ECC), Tendring District Council (TDC), and Colchester City Council (CCC). The MSTR has been prepared as evidence for the proposed Tendring Colchester Borders Garden Community (TCBGC). TCBGC is proposed to provide up to 8,000 new homes, ~8ha space for a town centre, ~25ha for employment, ~8ha of space for secondary school(s), ~8ha of space for primary school(s), ~7ha of space for a park-and-ride, and ~10.7ha of space for an expansion to the University of Essex (referred to as 'the university').
- 1.2. The proposed development is located to the east of Colchester and the A120 is the nearest section of the SRN to the site. A new A120 junction is proposed as part of the development as part of a proposed link road between the A120 and the A133. The new junction would be on the A120 between A12 Junction 29 and the A120 / A133 junction. The development of the TCBGC would be integrated with the development of a bus-based rapid transit system (RTS) for Colchester and would be one of the areas directly served by the RTS.
- 1.3. The local planning authorities are TDC and CCC, with ECC being the local highway authority. The site is proposed to be in the local plans for both districts.
- 1.4. The MSTR forms part of a larger evidence base that has been prepared to identify what is being proposed in the local plan. It builds upon case study evidence presented in the Mode Share Strategy which was submitted to support the Shared Strategic Part 1 Local Plan and developed in the Transport and Movement Framework for the TCBGC, which was submitted as part of the evidence base for Regulation 18 Consultation of the proposed TCBGC Development Planning Document (DPD). The MSTR provides further evidence to support the DPD, and the off-site infrastructure proposals developed to support the accompanying Infrastructure Delivery Plan (IDP). It aims to inform the target mode shares for the development.
- 1.5. The 2017 TCBGC Movement and Access Study set mode share targets for the proposed site. The MSTR sets out to determine how achievable these targets are. The purpose of this TN is to review the methodology for and the resultant mode shares identified in the MSTR, in order to determine whether the impact of the proposed TCBGC on the SRN will be accurately assessed.
- 1.6. For ease of reference, AECOM's main comments and recommendations are presented in bold and underlined text throughout the note. Recommendations regarded as critical to the acceptability of this development are coloured **red**. Recommendations that are regarded as important but not critical to the acceptability of this development are highlighted in **amber**.

## 2. Transport Baseline

### *Existing Mode Share*

- 2.1. To determine the existing mode share, ITP have analysed both 2011 and 2021 Census Method of Travel to Work data for Tendring and Colchester at district-wide level.
- 2.2. The 2011 figures presented in the MSTR are shown in Table 1 below. AECOM have obtained journey to work data from the UK Census data and agreed with all of the percentages presented in the MSTR, with the exception of those figures for 'Other' modes, which AECOM calculated as 7% rather than 1%, however AECOM note that for the purpose of this review this is not likely to impact the conclusions made.

2.3. ITP state that the 2021 figures in the MSTR, which are shown in Table 2, excludes figures of those 'working mainly at or from home' from the percentages. It states that this is because the 2021 census was undertaken whilst Covid-19 pandemic lockdown restrictions were in place, and therefore much greater numbers of people were working from home at the time (28% in 2021 compared to 5% in 2011 in Colchester & Tendring districts). AECOM welcomes, and agrees with the figures presented in the MSTR for 2021.

**Table 1: Existing 2011 mode share (Table 2-1 of the MSTR)**

Mode		Colchester & Tendring Districts
<b>Active Modes</b>	Walk	12%
	Cycle	4%
	<b>Total</b>	<b>16%</b>
<b>Public Transport</b>	Rail	7%
	Bus	4%
	<b>Total</b>	<b>11%</b>
<b>Car</b>	Car	61%
	Car passenger	5%
	<b>Total</b>	<b>66%</b>
<b>Other</b>		<b>1%</b>

**Table 2: Existing 2021 mode share (Table 2-2 of the MSTR)**

Mode		Colchester & Tendring Districts
<b>Active Modes</b>	Walk	12%
	Cycle	3%
	<b>Total</b>	<b>15%</b>
<b>Public Transport</b>	Rail	3%
	Bus	3%
	<b>Total</b>	<b>6%</b>
<b>Car</b>	Car	71%
	Car passenger	5%
	<b>Total</b>	<b>76%</b>
<b>Other</b>		<b>3%</b>

**Constraints and Opportunities**

2.4. The MSTR identifies the constraints and opportunities for achieving sustainable travel trips to and from the TCBGC. The opportunities and constraints identified in the MSTR, as well as AECOM's resultant comments, are shown in Table 3.

**Table 3: Constraints and Opportunities (adapted from Table 2-3 of the MSTR)**

	Opportunities	Constraints	AECOM's comments
<b>Active Travel</b>	<ul style="list-style-type: none"> <li>-Colchester has a reasonably developed on- and off-road cycle network.</li> <li>-There are proposed corridor-wide and area-wide improvements to active travel between TCBGC and Colchester.</li> </ul>	<ul style="list-style-type: none"> <li>-The existing cycle routes around TCBGC do not provide direct access to some key locations (such as Colchester town centre, the University, Greenstead, and Hythe).</li> <li>-The Great Eastern Main Line, Colchester-Clacton rail line, the A133, the River Colne, and Salary Brook present severance issues</li> </ul>	<p>AECOM welcome the opportunities stated and agree with the constraints identified regarding active travel.</p>

		between TCBGC and key locations.	
<b>Rapid Transport Systems (RTS)</b>	<ul style="list-style-type: none"> <li>-Potential to give priority to shorter, every day trips.</li> <li>-To provide a dedicated, segregated alignment through TCBGC.</li> <li>-To provide a high sustainable mode share at TCBGC.</li> <li>-To integrate land use and public transport.</li> <li>-To offer zero emission travel.</li> <li>-To provide green links across the site.</li> <li>-To enhance the natural environment with net biodiversity gains.</li> </ul>	<ul style="list-style-type: none"> <li>-Balancing the potential to serve the most users and keeping attractive journey times.</li> <li>-Congestion impacts on rapid transit journey times in future years.</li> </ul>	AECOM welcome the opportunities stated and agree with the constraints identified regarding rapid transport systems. AECOM note that there may be other constraints such as gaining public and political support for the scheme, and securing funding.
<b>Highway</b>	<ul style="list-style-type: none"> <li>-The link road enables a zonal approach to access which could reduce car trips.</li> <li>-The link road could reduce traffic on the A133 into Colchester.</li> </ul>	<ul style="list-style-type: none"> <li>-The link road has the potential to cause severance and noise, air quality, and visual impacts.</li> <li>-The additional capacity is likely to be utilised by TCBGC trips by 2051, minimising the benefits to the wider highway network.</li> </ul>	AECOM welcome the opportunities stated and agree with the constraints identified regarding highways, specifically the proposed link road. AECOM note that the proposed link road has potential to alleviate congestion on other SRN junctions, particularly A12 Junction 29, but it also has the potential to increase congestion at A12 J29 if it were to attract a significant amount of 'short-hop' trips to the SRN.
<b>Mode Share</b>	<ul style="list-style-type: none"> <li>-The mode share aspirations for TCBGC place significant focus on sustainable modes.</li> <li>-A vision-led approach is being advocated (instead of predict and provide).</li> <li>-The infrastructure and services provided by the TCBGC has potential to influence mode share.</li> </ul>	<ul style="list-style-type: none"> <li>-If there are minimal interventions regarding the transport at TCBGC then the targets would be undeliverable.</li> <li>-The constraints regarding the mode share targets are unknown at this stage.</li> </ul>	AECOM welcome the opportunities stated and agree with the constraints identified regarding mode share.
<b>Movements</b>	<ul style="list-style-type: none"> <li>-The main future movement from TCBGC is to Colchester town centre, with other movements to the university, Wivenhoe, Tendring, Chelmsford, Clacton, and London. There is potential for many of these trips to be made by sustainable modes.</li> <li>-There is potential to maximise on-site sustainable</li> </ul>	<ul style="list-style-type: none"> <li>-The lack of existing high quality walking, cycling, and public transport links means that the majority of trips will be made by private car unless there is significant investment in non-car modes.</li> </ul>	AECOM welcome the opportunities stated and agree with the constraints identified regarding movements.

	trips through the delivery of 15-minute neighbourhoods.		
Changing Lifestyles	<p>-Covid-19 caused people to rethink their travel patterns (how they travel, how often they travel, and where they travel to), particularly for commuting trips, as supported in the latest 2021 Census data.</p> <p>-Home-working is likely to increase local movements as people stay closer to home more often, creating opportunities for uptake in sustainable travel.</p> <p>-Fast broadband and reliable home internet allows people to do many things from home, such as shopping, banking, and learning, which reduces the need to travel.</p> <p>-Freight management could manage trips made by delivery vehicles.</p>	<p>-Public confidence in using shared forms of transport is recovering post-Covid-19 slower than private modes such as the car.</p>	<p>AECOM welcome the opportunities stated and agree with the constraints identified regarding changing lifestyles, noting that there have been significant changes in working patterns since the pandemic began, but that the Census 2021 data does not reflect current (and future) conditions as it was undertaken during a period of government-enforced lockdown.</p>

### 3. Evidence Base Review

#### Case Studies

- 3.1. The MSTR states that the Transport and Movement Framework (TMF) has been reviewed to identify case studies of places that have achieved ‘low car’ mode shares and the measures that were used to achieve this. **The MSTR states that a copy of the case study framework developed from the TMF is available on request. AECOM recommend that a copy of this is provided to National Highways to review.**
- 3.2. The analysis of the TMF identified the most commonly occurring interventions across all locations. The MSTR states that these can be assumed to be contributors to achieving a high proportion of sustainable trips. It states that some of these measures, such as an extensive network of high-quality cycle routes and rapid transit to key destinations, are similar to those anticipated to be taken forward as part of the TCBGC. AECOM note this.

#### Benchmarking

- 3.3. To better understand what a reasonable non-car mode share target for the TCBGC would be, a benchmarking activity has been undertaken in the MSTR.
- 3.4. The MSTR states that most garden communities aimed to deliver a mode share of between 50% to 60% sustainable trips, most of which would be by 2050. It states that Ebbsfleet Garden Village is the exception to this and aims to achieve a mode share of 85% sustainable travel for short distance trips and 65% for long distance trips. The MSTR states that this aligns with the TCBGC

mode share targets identified in the TCBGC Movement and Access Study (2017), where the targets identified were 81% sustainable (active modes and rapid transit modes) for internal trips and 62% for hinterland trips. The mode share targets for the proposed site are discussed in more detail in the section below.

- 3.5. The MSTR states that Ebbsfleet Garden Village is double the size of TCBGC with approximately 14,000 homes to be built and is located within the orbit of Greater London with a rail connection to the city – which is a key destination of the site. The MSTR identifies the reliance of rail travel on Ebbsfleet Garden Village’s mode share targets, and therefore acknowledges that TCBGC would need to be more reliant on new infrastructure in order to achieve similar mode share.
- 3.6. The mode share targets for each of the developments included in the mode share target benchmarking exercise are shown below in Table 4. AECOM note that whilst the information reviewed in the MSTR identifies mode share targets, it does not specify the extent to which these targets have been achieved. **It is therefore recommended that a benchmarking exercise is undertaken which assesses the mode shares achieved by garden communities or similar scale developments. Whilst understanding other developments’ targets is useful, understanding the achieved mode shares would enable a better understanding of what could be achieved as part of the proposals.** Additionally, **the mitigation measures (if any) for each of the case study developments used in the benchmarking exercise should be identified.**

**Table 4: Garden Community Mode Share Target Benchmarking (Table 3-2 of the MSTR)**

Name	Target sustainable mode share
Aylesbury Garden Town	50%
Ebbsfleet Garden City	Short distance local trips (under 4 miles): <ul style="list-style-type: none"> <li>• 55% active modes</li> <li>• 30% public transport</li> <li>• 15% private car</li> </ul> Longer distance trips (over 4 miles): <ul style="list-style-type: none"> <li>• 25% active modes</li> <li>• 40% public transport</li> <li>• 35% private car</li> </ul>
Harlow and Gilston Garden Community	Within the new Garden Communities: <ul style="list-style-type: none"> <li>• 60% sustainable</li> </ul> Of all journeys across Harlow: <ul style="list-style-type: none"> <li>• 50% sustainable</li> </ul>
Hemel Garden Communities	Originating from and/or ending within Hemel Hempstead: <ul style="list-style-type: none"> <li>• 40% sustainable</li> </ul> Trips originating from and/or ending within the North and East Hemel Hempstead Growth Areas: <ul style="list-style-type: none"> <li>• 60% sustainable</li> </ul>

#### 4. Mode Share Targets

- 4.1. The 2017 TCBGC Movement and Access Study set out mode share targets for the proposed site. The MSTR sets out to determine how achievable these targets are. The mode share targets in the MSTR have been split up into the following types of trips:
  - Internal trips: Trips staying within the bounds of the garden community;
  - Hinterland trips: Trips less than five miles from the garden community; and

- Other residual trips.
- 4.2. The Movement and Access Study identified the following mode share targets for the proposed development:
- Local trips: 62% active modes, 19% rapid transit, and 19% private car;
  - Hinterland trips: 24% active modes, 38% rapid transit, and 38% private car; and
  - All trips (weighted average): 40% active modes, 30% rapid transit, and 30% private car.
- 4.3. For clarity, the MSTR has set out the following definitions for each type of mode groups:
- **Active and Sustainable** modes are defined as walking and cycling, as well as micro-mobility (including rollerblades, skateboards, tricycles and scooters, as well as wheelchairs and adapted cycles;
  - **Rapid Transport (RTS)** modes are defined as any local bus rapid transit and demand-responsive bus services;
  - **Other modes** are identified as including private car, car-share, car pool, car club, taxi, and rail trips.
- 4.4. Private Car modes are defined as any car trips whether powered by internal combustion engine, electric motor, or other forms of technology. Car-share, Car Pool, Car Club, and Taxi Trips are grouped together and identified as being difficult to measure and monitor and less sustainable than active and public transport alternatives. Rail travel is acknowledged to be more sustainable than car trips, but the MSTR notes that trips by rail can only be considered sustainable if they are connected via RTS or active travel, a position which AECOM welcome.
- 4.5. To understand the mode shares that could be possible for the TCBGC to achieve, a spreadsheet tool referred to as the 'Mode Shift Model' (MSM) has been developed which enables the impact of the proposed interventions to be measured. This uses the TRICS database to establish a 'Business as Usual' (BAU) trip generation for the proposed site. **It is recommended that AECOM and Jacobs liaise (most likely through a meeting) to discuss and understand the spreadsheet tool used.**
- 4.6. The mode share targets for site trips have been identified for 2033, 2041 and 2051, with comparisons made to the mode share based on current travel behaviour (referred to as the business as usual mode share). Phase 1 of the development is anticipated to be complete by 2033 and Phase 2 by 2041, and therefore the mode shares reflect this. The future year targets are discussed in more detail in the next section of this TN.

## 5. Mode Share Forecasts

- 5.1. The mode share targets from the Movement and Access Study have been developed to now include mode share targets for residual trips, and also now reflect the proposed phasing of the development. The mode share targets for the future years (2033, 2041, and 2051) assume that funding availability will be front-loaded with the most impactful infrastructure delivered by 2033 and that priority infrastructure that will have the greatest impact on travel behaviour will be delivered before future residents establish travel habits. AECOM note that, as mentioned above, further evidence to support that this occurs in other developments is required before the latter assumption can be made.
- 5.2. Averages for the total site and the individual neighbourhoods have been provided for a 'Business As Usual' mode share which has been compared to the proposed 'ambitious' mode share targets.

For the purpose of this review, AECOM will review the proposals at total site level, rather than by individual neighbourhoods. The MSTR states that for the sake of simplicity, the mode share comparisons are shown for the AM peak hour.

- 5.3. A comparison of the 2033 mode share targets are shown in Table 5, with the comparisons for 2041 shown in Table 6 and 2051 in Table 7. AECOM note that the ‘ambitious’ mode share targets indicate a significant reduction in the proportion of vehicle trips, which gets greater further into the future. The targets indicate that a reduction of average vehicle trips from 66% of the total mode share to 38% of the total mode share if the measures identified in the Transport Measures document accompanying the MSTR are successful. AECOM note that these reductions are significant, with the majority of these trips going to active travel modes instead. As suggested in this note, **AECOM recommend that further evidence is provided to support that these interventions could be successful in order to accept these mode shares as attainable. Particularly, as mentioned earlier, evidence that suggests that similar mode share targets at other developments have been achieved (rather than just set) should be provided.**
- 5.4. Additionally, AECOM note that it is stated that these targets assume that the main measures will be implemented before residents move into the site. **It is recommended that alternative mode share targets are identified that establish the likely mode share if the residents of TCBGC move into their homes prior to the main infrastructure interventions being implemented as a sensitivity test. This is to understand the potential impact of underestimating the level of vehicle trips likely to use the SRN should the interventions be delayed.**

Table 5: 2033 Mode Share Targets Comparison (Table 5-1 of the MSTR)

Mode	BAU				Ambitious			
	Internal	Hinterland	Residual	Average	Internal	Hinterland	Residual	Average
Vehicles	47%	73%	90%	66%	21%	56%	88%	53%
Public transport	1%	7%	8%	5%	10%	17%	10%	11%
Active travel	52%	20%	2%	29%	69%	27%	2%	36%

Table 6: 2041 Mode Share Targets Comparison (Table 5-3 of the MSTR)

Mode	BAU				Ambitious			
	Internal	Hinterland	Residual	Average	Internal	Hinterland	Residual	Average
Vehicles	47%	73%	90%	66%	16%	53%	89%	43%
Public transport	1%	7%	8%	5%	10%	18%	9%	15%
Active travel	52%	20%	2%	29%	74%	29%	2%	42%

Table 7: 2051 Mode Share Targets Comparison (Table 5-5 of the MSTR)

Mode	BAU				Ambitious			
	Internal	Hinterland	Residual	Average	Internal	Hinterland	Residual	Average
Vehicles	47%	73%	90%	66%	9%	48%	86%	38%
Public transport	1%	7%	8%	5%	13%	20%	12%	17%
Active travel	52%	20%	2%	29%	78%	32%	2%	45%

## 6. Mode Share Monitoring & Management

- 6.1. The monitoring framework proposed for TCBGC is set out in the MSTR, with a full monitoring and management plan provided in the appendices. The key elements of the plan include the following:
- Establishing a baseline through household travel survey data;
  - Travel survey distribution of 1,000 households;



- Digital surveys;
- Site-wide Workplace Travel Plan;
- Framework Travel Plan and site-wide Travel Plan;
- Appointment of a travel plan officer;
- Monitoring activities to take place no less than every five years for 30 years and every ten years after this;
- Potentially administering penalties enshrined in Section 106 agreements or planning conditions; and
- Confirming data ownership prior to baselining and monitoring activities to ensure all relevant parties have access to all data.

6.2. AECOM welcome the above, particularly the inclusion of a Workplace Travel Plan, a Framework Travel Plan and a site-wide Travel Plan.

## 7. Next Steps

7.1. The MSTR states that it will inform the emerging DPD, which will be consulted on. It states that once the Regulation 19 consultation of the DPD is complete, the evidence base, including masterplan and proposed infrastructure will need to be reviewed in order to address any comments received as part of the consultation. This could include changes to be made to the mode share targets. The DPD will then be submitted to the Secretary of State and be subject to a full Examination in Public. Once the development is adopted, the final masterplan will be developed and submitted as part of a planning permission for TCBGC. **AECOM recommend that National Highways are consulted on at each upcoming stage of the development.**

## 8. Conclusion

8.1. AECOM have prepared this Technical Note (TN07) on behalf of National Highways to document a review of the 'Transport Evidence Part 1: Mode Share Targets Report' (MSTR) (February 2023) prepared by Integrated Transport Planning Limited (ITP), who were commissioned by Essex County Council (ECC), Tendring District Council (TDC), and Colchester City Council (CCC).

8.2. This TN has identified some recommendations which are summarised in the Executive Summary. AECOM's recommendations regarding these concerns are highlighted by the use of bold underlined text throughout this document. Recommendations regarded as critical to the acceptability of this development are coloured **red**. Recommendations that are regarded as important but not critical to the acceptability of this development are highlighted in **amber**.