



Integrating Climate Change into Transit Agency Planning Processes

INTRODUCTION

This document provides a summary of transit agency planning processes and strategies for integrating climate change. The process maps are based on results from the SCAG-ICF workshop and review of published resources. In each section, we've detailed a narrative for how your agency can begin to consider climate change within each process, as well as specific strategies for integrating climate change. These processes include:

1. Procurement/Contracting
2. Transit Asset Management
3. Short Range Transit Plan

PROCUREMENT/CONTRACTING



Figure 1. General procurement and contracting process.

In procurement and contracting, transit agencies identify and address needs that require external resources. Some of these needs may be related to your agency’s climate risks and hazards. For example, an agency’s bus stops may require the design of shading structures to accommodate passengers as average temperatures increase.

Procurement and contracting can be highly intertwined. For example, many smaller transit agencies contract out vehicle operators, maintenance workers, etc. So, climate resiliency efforts need to be adopted not just by the transit staff, but also included in contracts that specify the services and contract terms.

Although the exact steps will differ by agency, the general process is as follows (shown in Figure 1). First, an individual or department identifies a procurement need, and they then alert the Planning Department (or similar department) to the need. The Planning Department generally conducts their own assessment to verify the need, and then consider options for funding. Then, the Board or other decision-making authority, will decide which requests get funded. The requests may be prioritized based on how the request will contribute to agency-wide priorities (such as meeting ridership needs, maintaining critical infrastructure) as well as cost, or the requests may be approved on more of a first-come-first-served basis.

Some requests may come directly from your climate vulnerability assessment (e.g., a resilience need), or the entity identifying the need may not even realize the connection to climate risks. We have identified four opportunities for incorporating climate change into procurement and contracting:

- 1** *Need identified* – In this initial step, your agency should help your internal departments raise awareness of potential climate changes and risks, and outcomes of any vulnerability assessment. It may be helpful to provide each department with a summary of known climate risks, and how that information may apply to their management or planning processes. Without that information, it may be difficult for those departments to identify resilience needs.
- 2** *Verify the need* – When reviewing the need, consider how the project will help maintain service or safety standards as the climate changes and reduce repair/replacement costs in the future. Remember that weather history is not necessarily indicative of future climate, so make sure you're evaluating the need against projected changes in climate, not just current weather risks.
- 3** *Determine funding source* – In addition to traditional sources of funding for your agency, your project may qualify for state or federal funding under programs focused on increasing climate change resiliency. See the “Transit Resiliency Funding Opportunities.doc” resource in this toolbox as a starting point.
- 4** *Prioritization process* – Decision makers may specify certain criteria against which projects are prioritized, and also often have a lot of leeway when making decisions. Make sure the decision makers understand the risks arising from climate change and why it makes sense to invest in resiliency. Request that they make climate change resiliency one of the criteria against which they evaluate projects.

TRANSIT ASSET MANAGEMENT

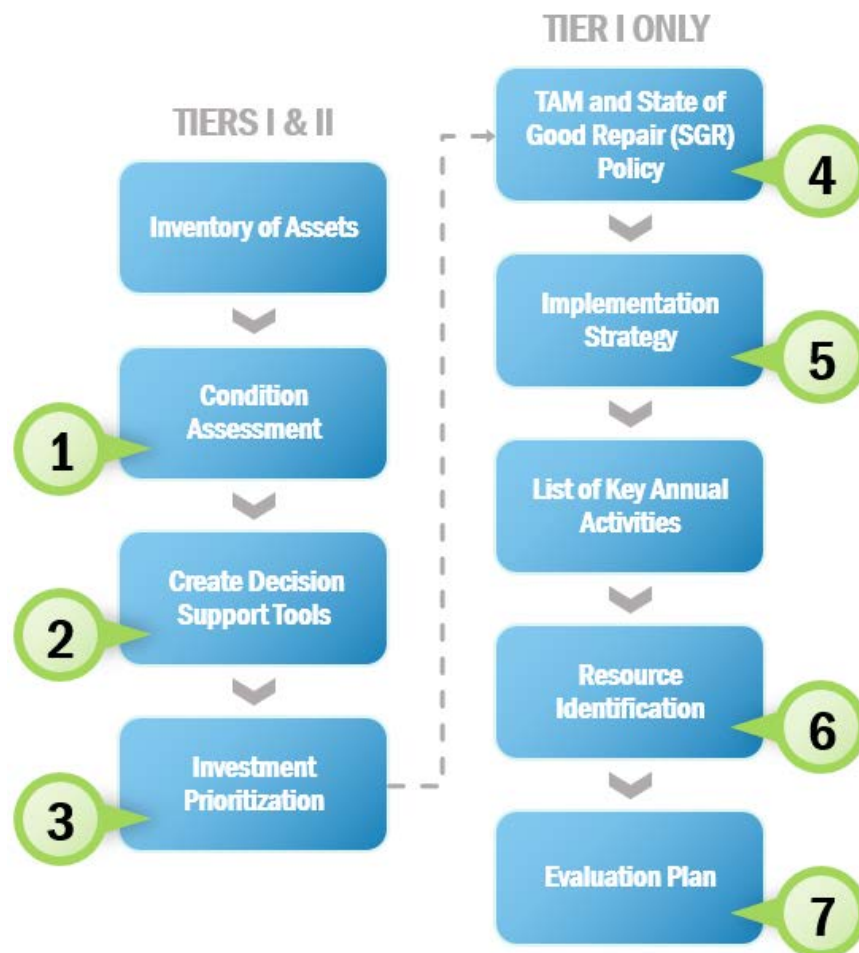


Figure 2. TAM process based on FTA final rule.

SCAG recognizes transit asset management (TAM) as a four-year process that is split into two categories, based on Federal Transit Administration (FTA) requirements. Tier I is for agencies that operate rail, or operate more than 100 vehicles at peak service, and includes all steps shown above. Tier II applies to smaller agencies that do not meet the Tier I criteria listed above. Tier II agencies need only complete the first four steps (asset inventory to investment prioritization). The process shown in Figure 2 and described below is based on FTA's TAM final rule¹.

The TAM process begins with a detailed inventory of existing assets, which could include equipment, rolling stock (i.e., vehicles and railcars), infrastructure, and facilities. You rate the condition of your inventoried assets in the condition assessment (only directly-controlled assets), and then your agency generates tools to support decisions in investments scheduling and prioritization. If your agency is Tier II, your TAM process ends here.

If your agency operates rail or has more than 100 vehicles at peak service (Tier I), the next TAM step generates overarching objectives, roles, and responsibilities with the clear goal of

¹ Federal Transit Administration. 2016. *TAM Rulemaking*. Available at: <https://www.transit.dot.gov/regulations-and-guidance/asset-management/tam-rulemaking>.

achieving state of good repair (SGR). From this, your agency moves to implementation, scheduling (i.e., listing annual key activities), identifying internal capacity and external funding resources, and creating an evaluation plan for ongoing monitoring of asset performance. Notably, the FTA requires targets and performance measurement under the TAM rule. Targets and performance measures vary by asset class, as described in Table 1, below.

Table 1. Asset categories to be tracked in an asset management plan, and FTA-required performance targets and measures. Source: SCAG 2017²

Category	Performance Targets	Performance Measures
Equipment	Only non-revenue service vehicles	Age (ULB): % of vehicles that have met or exceeded their ULB
Rolling stock	Only revenue vehicles by vehicle class/mode	Age (ULB): % of revenue vehicles within a particular asset class that have met/exceeded their ULB
Infrastructure	Only fixed rail guideway with direct capital responsibility	Performance (%): % of track segments with performance restrictions by class
Facilities	Maintenance and administrative facilities, passenger stations, and parking facilities with direct capital responsibility	Condition (TERM): % of facilities with a condition rating below 3.0 on the FTA TERM scale

We have identified six specific opportunities for incorporating climate change into the TAM process:

- 1 **Condition Assessment** – In this step, consider your assets’ vulnerability not just to today’s climate conditions, but to future climate conditions as well. See SCAG’s *Guidance on Obtaining Climate Data* for a high-level summary of projected climate trends. This resource will also assist you in obtaining more detailed climate projection information if that is necessary in order to evaluate asset conditions under future climate.
- 2 **Create Decision Support Tools** – As you develop tools to support investment decisions, include climate risk information. You already have access to information on how climate will change (see *Guidance on Obtaining Climate Data*); this toolbox also contains guidance on evaluating criticality of assets and understanding how they may be sensitive to change in climate. You may have completed a vulnerability assessment that could further feed into these decision support tools.
- 3 **Investment Prioritization** – During this process, include climate resilience as a criterion in your prioritization of projects. A decision support tool, your agency’s overall resilience objectives, or your vulnerability assessment results could provide needed information.

² SCAG. 2017. Transit Asset Management Data Collection Report.

- 4 *TAM and SGR Policy* – If your agency meets Tier I criteria, include climate resilience as part of your overarching goals. Create specific roles and responsibilities unique to achieving these climate resilience goals.
- 5 *Implementation Strategy* – Implementation offers an opportunity to educate both internal and external stakeholders on asset investments linked to climate change. For example, improving a shade structure to protect passengers at bus stops from increasing temperatures could be coupled with an outreach effort to explain how this investment is also related to climate change adaptation. Helping stakeholders understand why these investments are important in the face of a changing climate may help generate internal and external support for them.
- 6 *Resource Identification* – You may need to develop internal capacity to meet your climate resilience TAM and SGR goals. Internal education and revisiting training protocols could support this effort. For external funding ideas, see the “Transit Resiliency Funding Opportunities.doc” resource in this toolbox.
- 7 *Evaluation Plan* – Set up a monitoring system that relates asset performance with your climate risks. This may require altering or creating new metrics for monitoring. For example, track the number of heat events over a given threshold to measure your fleet’s performance in maintaining adequate cooling levels in extreme heat events.

SHORT RANGE TRANSIT PLAN

Short range transit plans (SRTP) discuss your agency's plans for investments to carry out services and operations. SRTPs cover topics ranging from fleet needs and capital improvement projects, to anticipated costs and revenues. SRTPs look out at least five years into the future but may cover longer timeframes. SRTPs are updated every three years.

Figure 3 shows the general SRTP process. There is usually a single person or department that coordinates the overall process. Each department within your agency will be asked to update their respective sections of the SRTP, which is an opportunity to identify necessary projects or investments for maintaining service and operations. Agencies typically conduct some form of external stakeholder outreach to understand the evolving needs and concerns of their community and customers. Revisions may be made to the draft SRTP based on this information. Then approval of your agency's Board is sought, and depending on your County's requirements, the County Transportation Commission's approval is sought as well. Once the SRTP receives final approval, it is implemented across your agency.

SRTPs can provide an important opportunity for incorporating resilience building strategies into an agency's planning processes. Projects included in the SRTP are generally prioritized for funding, so including climate resilience projects in an SRTP is an excellent way to integrate climate resiliency efforts into your transit agency.

There are several opportunities for incorporating climate change resiliency into the SRTP process:

- 1** *SRTP Process Kick-Off* – Make sure that the process coordinator is aware of projected changes in climate and the associated risks to the transit agency. The information in the *Guidance on Obtaining Climate Data* document, as well as your climate vulnerability assessment results, could be a source for this information. Now would be a great time to get high-level support within your transit agency to make it clear that climate resiliency is priority.
- 2** *Departmental Updates* – Educate the departmental leads on projected climate changes and associated risks. Help them understand the importance of climate resiliency to your agency goals, and ask that they consider climate resiliency when determining appropriate projects to include in their updates. Discuss how, although climate change may occur over a long time period, it is important to start preparing for it now.
- 3** *Stakeholder Outreach* – When communicating with stakeholders, keep an open ear for concerns related to climate and weather, and think through how those concerns may be exacerbated (or not) as the climate changes. Understand how stakeholder use of your agency's system may change under more extreme climate conditions, and what their needs are in order to be safe and comfortable while using your agency's services.



Figure 3. General SRTP process.

- 4** *Draft Plan* – If climate resiliency projects are proposed, make sure their need is communicated well. Discuss the risks of inaction in terms of how climate change could pose risks to service and operations, and how the projects will help maintain a certain level of service or reduce future costs. Focus on other co-benefits (i.e., economic, environmental, social benefits) of the requested projects.
- 5** *Agency Board and County Transportation Commission Approval (if applicable)* – This approval step represents another education opportunity. Before seeking their approval, take time to educate them about the projected changes in climate and how those changes could affect your transit agency. Notably, approval from the County Transportation Commission is not required in all SCAG Region counties.
- 6** *Implementation* – Implementation offers an opportunity to educate both internal and external stakeholders on asset investments linked to climate change. For example, improving a shade structure to protect passengers at bus stops from increasing temperatures could be coupled with an outreach effort to explain how this investment is related to climate change. Helping stakeholders understand why these investments are important in the face of a changing climate may help generate internal and external support for them.