Next Generation Corridor Equipment Pool Committee (NGEC)
Structure and Finance Working Group
Report on Available Options

Subgroup Leaders: Nancy Greene – Amtrak
Larry Salci – Independent Consultant
Reuben Vabner – Amtrak

Facilitator: Rob Edgcumbe – Independent Consultant

Team Members: Whitney Phend – FRA
Chad Edison – FRA
Kevin Kesler – FRA
Bill Bronte – Caltrans
Alan Ware – Georgia DOT
David Ewing – Independent Consultant
Shayne Gill – AASHTO
Robin McCarthy – Amtrak

Executive Summary:

Introduction:

As part of the ongoing work of the NGEC, specifications have been developed for different types of passenger rail equipment to allow the acquisition of equipment to be undertaken. With grants having been applied for and awarded, the implementation of these specifications will require the commencement of procurement activities.

When Section 305 was written, it identified the possibility of the creation of a corporate entity to acquire and own the equipment that would be used for the provision of intercity passenger rail service in state corridors and with Amtrak. In advance of those acquisitions being undertaken, it is necessary to take the concept of a potential corporate entity, along with other possible scenarios, and evaluate how things might work in practice and understand the relative merits of the various options.

Since this work is closely related to the acquisition process, it is necessary to bring some clarity to the discussion in a timely manner to facilitate the progression of vehicle acquisitions and funding.

For reference, the entirety of Section 305 of PRIIA is as follows:

SEC. 305. NEXT GENERATION CORRIDOR TRAIN EQUIPMENT POOL.

(a) IN GENERAL.—Within 180 days after the date of enactment of this Act, Amtrak shall establish a Next Generation Corridor Equipment Pool Committee, comprised of representatives of Amtrak, the Federal Railroad Administration, host freight railroad companies, passenger railroad equipment manufacturers, interested States, and, as appropriate, other passenger railroad operators. The purpose of the Committee shall be to design, develop specifications for, and procure standardized next-generation corridor equipment.

(b) FUNCTIONS.—The Committee may—

(1) determine the number of different types of equipment required, taking into account variations in operational needs and corridor infrastructure;

(2) establish a pool of equipment to be used on corridor routes funded by participating States; and

(3) subject to agreements between Amtrak and States, utilize services provided by Amtrak to design, maintain and remanufacture equipment.

(c) COOPERATIVE AGREEMENTS.—Amtrak and States participating in the Committee may enter into agreements for the funding, procurement, remanufacture, ownership, and management of corridor equipment, including equipment currently owned or leased by Amtrak and next-generation corridor equipment acquired as a result of the Committee's actions, and may establish a corporation, which may be owned or jointly-owned by Amtrak, participating States, or other entities, to perform these functions.

(d) FUNDING.—In addition to the authorizations provided in this section, capital projects to carry out the purposes of this section shall be eligible for grants made pursuant to chapter 244 of title 49, United States Code.

(e) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary $5,000,000 for fiscal year 2010, to remain available until expended, for grants to Amtrak and States participating in the Next Generation Corridor Train Equipment Pool Committee established under this section for the purpose of designing, developing specifications for, and initiating the procurement of an initial order of 1 or more types of standardized next generation corridor train equipment and establishing a jointly owned corporation to manage that equipment.

Key Elements:

In seeking to evaluate the options available when considering the possible acquisition and ownership approaches for intercity passenger rail equipment, it was considered appropriate to break the task down into three key elements. These were as follows:

- Structure – What form the entity might take if an entity is required, what the merits of creating an entity are, what are the limitations of creating an entity, what the relationship with the states needs/requires of any approach and what can be learnt from previous experiences of this subject around the world.
- Finance – How would the various options under consideration be approached from a funding perspective. This includes the capital funding for acquisitions programs and the operating costs of carrying out whatever role is determined to be appropriate. This would make use of the various funding sources available and would relate to the structure chosen.
- Management – What are the key management requirements to be adopted when acquiring equipment? These processes are to be undertaken whatever the proposed structure to ensure that the acquisition program has the greatest chance of success from a budget, timescale and performance perspective.

Clearly, there are overlapping considerations between these three topic areas. However, they were each addressed individually with the subgroup leaders discussing the overlapping aspects to ensure the final outcome is not self-contradictory.

Below is a summary of the key points that are identified by the SFWG. Where considered appropriate, some recommendations are made. Otherwise, the options are highlighted to promote further discussion on what the actual goals are that the NGEC wishes to promote. In the sections that follow are more detailed descriptions of the analysis that has been undertaken in each area. Those sections provide the information on which the following summations are based.

The key topic areas are:

- What role is intended for the NGEC going forward?
- What types of structure can be considered?

- How can the various proposed activities be supported depending on the structure employed?
- What are the funding options for acquiring equipment?
- How should equipment be acquired and what are the key processes to make that effective?
- How would costs be covered throughout the life of the equipment?

Four concepts were discussed within the working group. These are variations of increasing complexity based on where the NGEC is currently place. Those options are:

1. Current Case – the committee continues to function as a committee and produce the specifications and procedures that are deemed necessary for equipment acquisition. The states then sue those specifications and processes when they manage their own acquisitions.
2. The "Dating Agency" – the committee does the same things as in case 1 but also acts as a clearing house for bringing together acquisition programs into aggregated procurements that allow for greater economies of scale. The states would be less flexible in the timing of their programs since they would be linked to other state programs.
3. A Procurement House – an entity would be formed that would undertake procurements. This entity would control the specifications and processes and would implement them in acquiring equipment which would then be assigned to the states for their ownership.
4. An Equipment Lessor – the entity would undertake all of the tasks in case 3 but would take ownership of the equipment and would be responsible for its funding and through life support. It would charge a lease fee for the equipment from the user. Potentially, the equipment could have a lease shorter than its life and could be reallocated to another user later in its life.

For the first two cases, there is no corporate entity created. There may be a need for staff to be employed to undertake those roles and they would need to have an actual corporation to employ them. This could be undertaken by one of the NGEC partners in the same way that Amtrak currently employs engineering staff to support NGEC activities that are funded via the grant provided by the FRA.

Creation of a corporation brings a number of new issues to bear and these have associated costs. Many of the normal reasons for such an approach are based on the liabilities and tax implications for investors which are not so relevant to the states. Indeed, it is recognized that any corporate entity that requires states to be equity holders would be very difficult to effect in a timely manner.

Therefore, if a corporation is required, it must serve an alternative purpose that justifies the complexity involved. This is potentially a policy decision. It is recognized that such a corporate entity could be created as a subsidiary of Amtrak. This might help to minimize some of the complexity issues since they can be subsumed within the larger Amtrak corporate structure where economies can be gained.

The funding of the equipment only becomes a complex question when a corporate entity is created. Therefore, the analysis of the funding options is based on the assumption that such a step is being taken. The analysis also bases itself on a subsidiary of Amtrak being created but it should be noted that the discussion is equally applicable to a separate entity and the Amtrak subsidiary is discussed as an example. Considerable experience with the way Amtrak has funded equipment in the past is the basis for this analysis.

The funding options are many and are highly dependent on the outside influences. If capital funding grants are available, they obviously have a low cost. Assuming the federal government is in a position to provide them, they are the first option. However, other constraints, both fiscal and political will ultimately have a role and so the alternative funding mechanisms are spelt out for completeness.

The funding of equipment and the creation of a structure to procure and own it is only part of the story. It is vitally important that the thoroughness that has been shown in creating specifications is allied to a through mechanism for managing the acquisition of the equipment. Consequentially, the last section of the report goes through the necessary issues to be considered when managing a vehicle acquisition program. These issues are not specific to any one ownership model and are applicable irrespective of which route the NGEC takes. The only issue will be the division of responsibilities between various parties when allocating the roles.

In addition, this section also puts some context to the passenger rail vehicle market, both in the US and the larger world market to establish what position the programs under consideration here have in the larger market and the way they will be received by the supplier base.

ANALYSIS AND RECOMMENDATIONS REGARDING STRUCTURE OF AN ENTITY TO MANAGE PRIIA 305 ACTIVITIES

PURPOSE:

To analyze alternative models for structuring the future activities of the PRIIA Section 305 Committee.

BACKGROUND:

The Passenger Rail Investment and Improvement Act of 2008 tasked Amtrak with establishing a Next Generation Corridor Equipment Pool Committee, comprised of representatives of Amtrak, the Federal Railroad Administration (FRA), host freight railroad companies, passenger railroad equipment manufacturers, interested States, and as appropriate, other passenger railroad operators, to design, develop specifications for, and procure standardized next-generation rail passenger equipment [See Exhibit A for a copy of PRIIA Section 305]. The Committee was formed on January 14, 2010, and representatives were elected to an Executive Board to oversee and coordinate the activities of the Committee.

Pursuant to Section 305(c) of PRIIA, Amtrak and the States participating in the Committee may enter into agreements for the funding, procurement, remanufacture, ownership, and management of corridor equipment, including equipment currently owned or leased by Amtrak and next-generation corridor equipment acquired as a result of the Committee's actions, and may establish a corporation, which may be owned or jointly owned by Amtrak, participating states, or other entities, to perform these functions.

A Structure and Finance Working Group ("SFWG") comprised of representatives from Amtrak, FRA and interested States was formed to consider the future structuring of an entity to perform the activities specified in Section 305(c). Two surveys of State Departments of Transportation were undertaken: one to examine the near-term and mid-term equipment needs of the States and Amtrak and the other to assess the States' ability to participate in a legally cognizable entity in the context of Section 305(c). [See Exhibits B and C, respectively, for copies of the questionnaires and results of the surveys.][1] Based on the survey results and follow up discussions among the States, Amtrak and FRA, the Executive Board requested an analysis and recommendations as to whether to form a corporation to carry out the activities of the Section 305 Committee, or to have Amtrak and the States enter into formal agreements to carry out the activities of the Section 305 Committee, or to have the Committee continue carrying out Section 305 activities under the Committee's current form. N.B. Throughout this paper, when

[1] [1] Further surveys of equipment needs are listed for reference [Location TBD]. For example, Attachment 1 of Amtrak's Fleet Plan [state location] projects Amtrak's equipment needs for the next 30 years. [Provide website reference for whole Fleet Plan.]

referring to the "activities" specified by Section 305(c), the authors mean "funding, procurement, remanufacture, ownership, and management" of corridor equipment.

The SFWG formed three subgroups to focus specifically on the Structure, Funding and Management of a future Section 305 entity. The outline below focuses on the Structure of a future Section 305 entity. The objective of our analysis is to come up with a recommendation as to the "best way" of performing the Section 305(c) activities.

CONSIDERATIONS:

Introduction: The Structure Task Force made several assumptions and considered various issues in order to define what alternatives would be analyzed. Among the assumptions were an acknowledgment of the existing legal structure of the entities involved in the Committee, the current funding realities – funding climate and funding process, and the current political climate. Where changes would be needed, such as new legislation, the paper says so. The paper also focuses on the "corridors" where intercity passenger rail services are presently provided, not on commuter rail or long distance passenger rail service.

I. What are the strategic goals of an entity as stated in Section 305(c)?

The FRA has specified that the Administration's goal is to develop a viable intercity passenger rail equipment manufacturing industry in the United States. PRIIA supports that goal in requiring compliance with Buy America as well as the development of standard vehicle specifications as this will promote the procurement of large orders of rail equipment.

The "pooling" concept inherent in Section 305, particularly in the Section 305(c) activities, is intended to facilitate achievement of a strong passenger rail equipment manufacturing industry. That is, if all of these activities are "pooled," then duplication will be avoided, cost savings will be realized and more equipment will be purchased and operated. How best to pool them is the question.

II. How are these activities currently performed in the United States?

Today Amtrak partners with *fifteen* states/entities to provide state supported services in *nineteen* corridors. In each of these states, Amtrak works with the state Departments of Transportation or other relevant authority to provide state-funded corridor services that Amtrak operates pursuant to contracts with the states. For the state-supported rail services, Amtrak generally provides a turnkey operation including rolling stock; operating crews, management, supervisors, and administrative support; maintenance of equipment; marketing and promotions; reservations and information; and ticketing. Except for the Keystone service which operates entirely on Amtrak-owned track, Amtrak

works with host railroads that provide train dispatching, signals and communications, and maintenance-of-way functions. In addition to state-supported corridor services, Amtrak also operates "system" corridor services on eight routes that receive no state support. Most of these services were formerly designated as part of the basic system.

In 2008, PRIIA set guidelines for state-supported service policy and pricing and required Amtrak, in consultation with DOT and affected states, to adopt a standardized cost allocation methodology for all non-Northeast Corridor routes of less than 750 miles and to implement that methodology by the beginning of FY 2013. The methodology must treat all states/services equally, and must allocate to each route the cost (operating and capital) incurred for that route and a proportionate share of costs incurred for more than one route. PRIIA also created a federal matching capital grant program, authorized at $1.9 billion over five years that could be used by states to fund some of the capital costs associated with state-supported routes. Full implementation of PRIIA in FY 2013 will result in a consistent methodology for state-supported service pricing and the conversion of existing "system" corridor trains to state-supported status. The impact PRIIA will have on the level of non-NEC corridor service Amtrak operates in the future will depend upon a number of factors, including how much funding is appropriated for PRIIA's state capital matching grant program; economic conditions that impact state budgets; and what percentage of the capital and system overhead costs that are allocated to each route will be borne by the states.

Of the nearly 2,000 railcars currently operated by Amtrak, approximately 95 percent were procured by Amtrak using a combination of federal funds and commercial finance either during construction or upon delivery via long-term leveraged leases. (Federal funding has played a substantial role in servicing that commercial finance.) States have separately procured approximately 110 railcars. Where Amtrak does not maintain the railcars under contract with the states, the cars are maintained by other companies under contract.

III. What was the model contemplated by Congress in establishing Section 305?

When the legislation was created that brought the NGEC into existence, one of the considerations was the parallels that could potentially be drawn from other operations. One such example was the TTX model utilized in the freight railroads. TTX is not alone in providing equipment to railroads with other operators such as GATX, GE Capital, AIG and many others also being equipment providers. The unusual aspect about TTX is that its ownership is shared between the large freight railroads. Therefore they are customers and providers to some degree.

This does have some parallels with the approach that might be considered here. However, initially we shall focus on the business model of a freight railroad lessor rather than the ownership structure. That can be dealt with later in this document.

The provider of equipment to the freight railroads has a strategic relationship with the equipment but often no tactical relationship. There are multiple ways in which a transaction may be created but the fundamental principles are as follows:

- Lessor determines the potential demand for equipment in service in coming years
- The availability of equipment to meet that need, the suitability of that equipment and the remaining life of that equipment are assessed.
- The need for new equipment to be purchased is determined and a judgment made on the amount of that new equipment that the lessor can realistically fund and place in the market.
- The lessor specifies the equipment and acquires it from the car builders. The funding is sought through conventional channels to pay for it
- Customers are sought for the equipment and a lease is agreed. This lease will have a period shorter than the full life of the equipment and will be priced based on the lessors cost of funds, anticipated life of equipment, expected investment required throughout the life and a risk premium.
- The operator will be expected to undertake maintenance throughout the term of the lease. The lessor may well have rights to ensure that the maintenance is being undertaken as required.
- The operator takes possession of the equipment and operates it in accordance with the lease terms. At the end of the lease the equipment is either returned to the lessor or a lease extension/renewal is negotiated. Rights to extend may be included in the original lease.
- If the equipment is returned, the lessor retakes possession and remarkets the equipment. If any investment in upgrade or overhaul is required, the lessor undertakes this work.
- If major overhaul is required during the lease, this might either be the obligation of the operator or it might be something that is funded/undertaken by the lessor as part of the lease.
- The lessor will monitor the equipment throughout its life and determine whether it remains marketable or whether it is due for retirement. This will be a combination of technical and commercial considerations.

The freight sector model has many potential similarities to the passenger model. However, there are some significant differences too. The equipment used by the freight sector (excluding locomotives) is significantly less technically complex. This implies a simplified maintenance regime. Also, since it does not carry passengers, there are less safety considerations to be included when specifying and supporting in service.

Additionally, freight equipment has a lot less geographical constraints in its operation. There is considerable interchange of equipment between freight railroads whereas the passenger equipment tends to be contained within a given route structure.

Variability of utilization is higher in the freight industry than the passenger business. Freight services do not usually operate to a given timetable and can adapt to the differing demand of their customers in a way that is not the same as for the passenger sector. Passenger schedules are generally more fixed and changes take a lot longer to negotiate and implement. This makes equipment need more constant.

Overall scale is very different in North America. The freight rail car fleet in North America is over one million cars. The domestic US intercity rail fleet is approximately 2,000 vehicles, albeit vehicles with a significantly higher unit cost. The lower fleet size reduces the flexibility for reallocation, adjustment of capacity and storage. Moreover, the lead time for new equipment is far longer in the passenger sector and so decision making about acquisitions cannot be as responsive.

One final point worthy of consideration is that it is preferable to have some consistency within the train of equipment. Mixing and matching equipment has a negative customer impact (as customer research has shown) as well as a higher level of difficulty in selling mixed capacity. Freight operations are a lot more flexible when it comes to building trains with varying equipment types.

IV. What, in general, are the advantages and disadvantages of establishing a corporation?

One of the primary reasons for incorporating a business is to limit the personal liability of the owners, a consideration that may be irrelevant to the states which likely enjoy sovereign immunity. A second reason for incorporating is to limit the taxes the owners must pay, likewise a consideration that may be irrelevant. Other reasons include, for example, eligibility for tax deductions for certain expenses such as health and life insurance paid to employees. A corporate structure may attract talented employees by offering them an ownership interest in the form of stock options or stock. Shares of the corporation are usually freely transferable. Once established, a corporation may have perpetual existence which may be attractive to investors.

Disadvantages of incorporating include the significant costs and fees involved in starting and running the corporation. It must be capitalized. There are strict formalities that must be followed in order for it to receive the benefits of being a corporation. Depending on the type of corporation that may be established, there will be various tax consequences.

The major options available for considering the type of entity the Committee may want to form are: Corporation (generally for profit or non profit or a cooperative which may be a hybrid of the two), Limited Liability Company, Partnership, or Business Trust. Or the Committee may remain unincorporated. The tax consequences differ for the different entities that may be established. Generally in a for profit corporation the profits are taxable. Non-profits generally are not taxable. For an LLC, the profits would flow

through to the owners. There are different tax considerations for the other entities. Generally, it is better not to choose the type of entity based on the tax considerations. Instead, the Committee should start with the objectives and then develop a business plan. Once this is done, the tax template can be determined.

As for the governance of an entity, there is no substantive impact on the governance by the type of entity formed. Most types of entities can be structured with a board of directors. Currently, the Executive Board of the Section 305 Committee effectively functions as a board of directors.

Finally, it should be noted that while Section 305(c) specifically authorizes the establishment of a corporation, there may be other options the Committee might consider that would not necessarily involve the states and Amtrak creating an entity but that would meet the objectives of Section 305(c), which options should be considered.

V. Can Amtrak and the States (legally) establish and/or participate in a corporation to perform the activities contemplated by Section 305(c)?

Section 305(c) authorizes Amtrak and/or states participating in the Committee to establish a corporation to perform the activities contemplates by Section 305(c). Judging from the responses to the 305 Questionnaire on States' legal authority, most states would require a change in their legislative authority to establish and participate in a corporation. However, most respondents responded that they could enter into cooperative agreements with other states and with Amtrak.

One state (IA) elaborated on the reasons the state could not participate in a corporation. In that case, the state's constitution prohibits the state from being a stockholder in any corporation. It also prohibits the state from giving or loaning "the credit of the state" to any "individual, association or corporation" and prohibits the state from "assuming or becoming responsible for any debts or liabilities of any individual, association or corporation. These reasons or similar reasons, while not specifically cited by the other respondents, are presumed to apply in other states.

Several states (DE, ME, NC and WA) reported some flexibility within legislative parameters: DE reported entering into cooperative agreements with the SEPTA, a local transit authority. Because NNEPRA (ME) is a corporate entity, it has more flexibility than would a state. However, NNEPRA's authorizing authority specifies that participation of NNEPRA must be in furtherance of passenger rail service between points within ME and points within and outside ME. NC has authority to enter into partnership agreements with private entities and authorized political subdivisions. WA authorizes the creation of separate legal entities in the form of non-profit corporations, partnerships or an LLC. However, the statute limits membership or partnerships to participating public agencies.

GA, NY and TX appear to have no authority to participate as a member of an LLC, Joint venture or partnership.

VI. Can Amtrak and the States (legally) enter into partnership or other cooperative agreements to perform the activities contemplated by Section 503(c)?

Amtrak is empowered to enter into cooperative agreements to perform the activities contemplated by Section 305(c) and has experience doing so. Most states also indicated the willingness and legal authority to enter into cooperative agreements as well. Predominantly, the desire is to enter into a joint, group, or cooperative purchasing arrangement to take advantage of economies of scale to achieve lower prices. However, several states experienced efficiencies in cooperation with Amtrak resulting from the increased availability of railcars on a shared basis. There is also the potential for entering into cooperative agreements to provide access to alternative funding/financing that may be available for a larger fleet, potentially from private sources to supplement the traditional public sources.

Amtrak has successfully partnered with commuter authorities in purchasing commuter rail equipment and is experienced in the procurement of intercity passenger rail equipment on behalf of various states. Amtrak's fleet management plan projects replacement of 150 rail cars per year for the next 20+ years. The rate of equipment acquisitions planned by Amtrak is based on the recapitalization of the total current fleet. This includes those cars Amtrak has that currently provide state supported services. If the states take on the acquisition responsibility for all of their car needs, this would have a consequential reduction in Amtrak's core needs.

VII. How do other countries provide passenger rail service?

Describe how selected other countries fund, procure, own and manage passenger rail equipment. [England, France, Germany, Japan, others?] In each analysis, try to follow a consistent format and focus on the activities specified in Section 305(c) and describe lessons learned or practices that can be replicated in this country:

VIII. What is the role of the Committee or an entity in projecting and in meeting the immediate and currently foreseeable equipment needs of Amtrak and the States?

Section 307(j) of PRIIA directed the Administrator of FRA to: (1) provide assistance to States in developing State rail plans, (2) develop a long-range National Rail Plan

consistent with both approved State rail plans and the rail needs of the Nation, and (3) develop a Preliminary National Rail Plan by October 16, 2009. Amtrak's Fleet Strategy Plan was first published in February 2010. A subsequent annual update was published in March 2011. The Committee is well situated to coordinate the planning for the acquisition, ownership, maintenance *and deployment* of the equipment on a national basis. The State rail plans can generally be found on the state department of transportation website. Amtrak's fleet rail strategy plan is on Amtrak's website.

The Committee also can potentially play a positive role in influencing the "market" through careful combining and sequencing of the purchases. While the Committee as presently constituted cannot undertake a joint procurement, several states together, a single state or Amtrak (or other entity) acting on behalf of a number of states would be able to make larger, more economical procurements. Additionally, by acting as a clearinghouse of sorts, the Committee (or other entity) could meter the flow of orders so that the industry knows that there will be a continuing demand making potential manufacturers more inclined to invest in this sector of the rail market via their plants and equipment in the US. This could contribute to an increase in domestic content/production.

A corporation or other entity could possibly help arrange financing for a number of states, and could help simplify the procurement process. A single, standardized procurement process will be cheaper for bidders and the states.

ALTERNATIVES: Based on the information available to the Structure Task Force, various alternative structures were evaluated beginning with the status quo and ending with the creation of a corporation to perform one or more of the Section 305(c) activities.

I. Can the Section 305(c) activities be performed by the Committee as presently structured?

The Committee as currently structured as an unincorporated association of multiple entities consisting of FRA, Amtrak, states – which are the voting members of the Committee – and privately owned freight railroads, trade groups, representatives of manufacturers of railroad equipment and facilities - as non-voting members – cannot, itself, perform the Section 305(c) activities. That is, it cannot provide funding; it cannot procure vehicles, etc. It can, however, development procedures and recommendations for doing so and can, with modifications to its structure, facilitate the accomplishment of the Section 305(c) activities as contemplated by the statute, in other words, it can "manage the process."

Thus far, the Committee has successfully developed a series of equipment specifications, as was required by Sections 305(a) and (b), chiefly through the volunteer effort of numerous public and industry participants. The Committee is in the process of

developing procedures for the states to undertake a joint procurement of equipment, which appears to be proceeding successfully.

As indicated above, however, the actual funding and procurement of vehicles do not appear to be activities the Committee can do principally because the Committee lacks the legal capacity to enter into contracts, expend funds, indemnify, etc. Thus far, any contracts that the Committee has had to execute have been executed by Amtrak (or as subcontracts under contract to Amtrak) on behalf of the Committee, which has the legal authority and corporate structure needed to undertake such obligations. Even the funding appropriated by Congress for the activities of the Committee has been granted to Amtrak to be used on behalf of the Committee, and ownership of the specifications has been assumed by Amtrak on behalf of the Committee, pursuant to the terms of the FRA grant.

For the same reasons the Committee cannot fund and procure vehicles, the Committee cannot own them, remanufacture them or manage them. The Committee can, however, as indicated above, develop procedures and recommendations for all of the activities related to the acquisition, ownership and management of the equipment and can participate in oversight.

The states together or in collaboration with Amtrak can enter into agreements to jointly perform the Section 305(c) activities. In fact, as indicated earlier, many states have had experience entering into joint procurements with other states or with Amtrak for procurement of transit vehicles and presumably can do so for the procurement of HSIPR vehicles. In the transit world, there have been state equipment pool procurements (with a state acting on behalf of several transit authorities to purchase equipment), joint procurements by several transit authorities together, option type procurements where one authority purchases a base order and assigns its options to make subsequent purchases to other authorities with identical needs. In some cases the vendor interacts only with one of the joint purchasers. In other cases, the vendor enters into separate agreements with each of the purchasing agencies. In some cases, the procurement involves other entities such as a financing company. Returning to the question whether states have the legal authority to contract with a Section 305(c) corporation or entity, if they have had experience contracting with Amtrak to procure equipment that would be operated in and for their state, it is likely that such state would have the legal authority to contract with a Section 305(c) corporation or entity. Note that Section 305(c) does not authorize the establishment of a Section 305(c) corporation to operate equipment. Therefore, presumably any entity established by the Section 305 Committee to procure equipment would need to contract with other entities such as Amtrak to operate and maintain the equipment.

Even assuming change of legislation to authorize states to jointly establish a Section 305(c) corporation with Amtrak, it is unknown whether contracting with a new Section 305(c) entity to handle the funding or procurement in lieu of Amtrak, for example, would be more efficient or cost effective. If federal funds were being used to acquire the equipment, then all of the federal requirements pertaining to expenditure and

management of the funds would apply. Thus, the same federally required competitive procurement process would apply. To the extent any applicable state requirements would not be preempted, the state requirements would apply also. Unless additional sources of funding were identified that could be brought in by the new entity, the results would likely be equal. In any event, it would be important to avoid duplication of resources and costs when considering establishing an additional entity or entities to fund and procure equipment.

It is unknown whether having a new Section 305(c) entity own the equipment would be desirable or more efficient than the present situation where multiple entities own and/or lease equipment. The overwhelming response of the states who responded to the "equipment needs" questionnaire was that the states would want to own their equipment. The respondents in the Midwest anticipated that the equipment would be operated in an equipment pool with neighboring states, however, and existing equipment used in the Midwest is owned by Amtrak. Section 305(c) contemplates that the equipment procured, owned and managed by the corporation or other entity could include the equipment currently owned or leased by Amtrak as well as the next-generation corridor equipment acquired as a result of the Committee's actions. Transferring equipment currently owned or leased by Amtrak to a different entity is likely to be time consuming and costly given the complicated operating and maintenance agreements in place. However, conditioned on appropriate funding arrangements, Amtrak could add the management of new next-generation equipment to the equipment it already manages and manage them together.

II. What changes/improvements can be made to the present Committee structure to improve its performance?

There is a range of possibilities for achieving the goals of Section 305(c).

The Committee as presently established has accomplished a great deal through the enthusiastic effort of many people from both the public and private sectors committing significant volunteer time and effort. Realistically, however, this process cannot continue indefinitely into the future. It is necessary to come up with something that is sustainable for the long term. Various alternatives can be considered. A few are listed here.

1. <u>Continue with the Committee but Hire Staff</u>

The simplest approach would be to continue to have the Committee with its volunteer Executive Board continue to serve but more in an advisory capacity and hire an executive director with support staff to carry out the substantive activities of Section 305(c). The chief benefit would be that the Committee has proven itself to be very efficient in setting priorities and in undertaking the task of developing the specifications and other administrative functions. There would still be the problem that the Committee as an entity remains an unincorporated association without the legal authorities of a corporate entity or limited liability company, partnership or other business entity. In such case, the

substantive functions would have to be performed as they always have – by the states and Amtrak under various agreements. The difference would be that the executive director and staff, under the direction of the Executive Board, would plan and coordinate the activities and could significantly bring about the "pooling concept" contemplated by Section 305. The executive director would arrange for financing and procurement, etc. to be handled by others working together cooperatively in order for the states and Amtrak to gain some economies of scale. Funding for the executive director and staff would need to be secured. $3 million of the $5 million authorized under Section 305 has not yet been appropriated. Thus, it is possible that Congress would appropriate some of those funds for the Committee to Amtrak and that some of these funds could be used to pay for a staff. The states might be asked to contribute to the funding of the staff but based on the responses to the questionnaires concerning states' contributions to the work of the committee; it is not likely that they would do so. This would need to be researched.

2. Cooperative (like a condominium)

A more sophisticated approach would be to create an entity similar to a condominium where the states and Amtrak would still operate autonomously but cooperatively. That is, their activities would be coordinated but they would retain individual ownership of the equipment, they would secure financing separately but would pool their effort to achieve economies of scale and save administrative and legal costs.

3. Interstate Compact

At a higher level of organization would be an interstate compact, which would have to be approved by Congress. Presumably, this new public entity would be given the authority to perform the activities contemplated by Section 305(c). It would likely also assume from the constituent states some of the authority that currently exists in their individual departments of transportation. The chief benefit would be that the entity would be empowered to enter into contracts, to sue, be sued – in effect, to do whatever the Committee determined was necessary to carry out the requirements of Section 305(c). However, judging from experience with existing bi-state compacts, the states would retain certain independent authority over the governance of the compact and the responsibility for and manner of accomplishing the Section 305(c) activities. Establishment of an interstate compact would take time thus it might be years before it was able to undertake the functions of a Section 305(c) entity.

4. Corporation

The most sophisticated and complex entity that might be created is a corporation – which could be either for profit or non profit – to fund, procure, own, remanufacture and manage the next-generation corridor equipment. To participate in a corporation, states would need legislative authority, which would likely take some time to secure. In the interim, presumably the Committee would continue to provide guidance but the individual participants would continue to function separately and cooperatively. The

advantages and disadvantages of establishing a corporation have been previously alluded to. Capitalizing the corporation would be one of the most difficult hurdles to overcome.

Since Section 305(c) specifically authorized Amtrak and the states to establish a corporation, this analysis considers that as the congressionally-mandated objective. If instead, the Congressional intent were that Amtrak could create a subsidiary, for example, with which the states could contract or that the states could simply contract with a different corporation, then a different discussion would ensue as referenced below. As indicated earlier, according to the states' responses to the questionnaire, all but one respondent was authorized to contract with Amtrak. Presumably they have legal authority to contract with an Amtrak subsidiary or with another corporation or corporations for provision of the activities identified in Section 305(c) – funding, procurement, ownership, remanufacture, and management. It would be mere conjecture to compare the advantages and disadvantages of contracting with such other corporations.

In any of these scenarios, it is assumed that the Section 305 Committee will continue to exist as a kind of advisory board in order to ensure the fulfillment of the other mandates of Section 305. For example, Section 305(b) states that the functions of the Committee are:

> "To determine number of different types of equipment required, taking into account variations in operational needs and corridor infrastructure;
>
> To establish a pool of equipment to be used on corridor routes funded by participating States; and
>
> Subject to agreements between Amtrak and States, to utilize services provided by Amtrak to design, maintain and remanufacture equipment."

Unless the entity was constituted to undertake these additional authorities, the Committee would need to continue to exist to ensure they would be performed.

5. Amtrak Subsidiary

Several people have suggested that Amtrak might create a subsidiary to carry out the Section 305(c) activities – funding, procurement, ownership, remanufacture, management, etc. Certainly, Amtrak as presently established has those capabilities and experience in performing them and it would be expected that if funding were available to create a subsidiary, Amtrak would be successful in this effort. It would be important to identify exactly which of the several possible activities would be assumed by the subsidiary and the costs and benefits weighed before moving in this direction. The role of the states in establishing the subsidiary would need to be explored as based on the responses to the questionnaire on legal authority, legislative change would likely be required for states to have such a role if they were to have any equity stake.

III. Can Amtrak alone or with the States create a corporate entity that can perform the Section 305(c) activities?

Section 305(c) authorizes Amtrak AND the states participating in the Committee to establish a corporation. Thus, to comply with the statute, both Amtrak and the state(s) would need to be involved. However, in response to the questionnaire, not one state indicated clearly that it had legal authority to create a corporation with Amtrak, thus legal authority would need to be secured – something that would take years to accomplish. Various states indicated they had authority to participate in cooperative arrangements and NC indicated it had authority to enter into partnership agreements with private entities…to finance, plan, design, develop, acquire, construct, equip, maintain and operate transportation infrastructure in the state. WA indicated it only had legal authority to create a nonprofit corporation but, if it did, the membership would have to be limited to the participating public agencies, which would effectively disqualify Amtrak.

IV. What kinds of agreements can be structured to accomplish the Section 305(c) activities?

If the Administration's objective is to develop a domestic passenger rail car manufacturing industry which would be accomplished through the pooling of vehicle purchases, one might ask whether it is necessary to create an entity to pool the purchases or whether the pooling could be accomplished by some other means. Obviously a central repository of information would be necessary and excellent coordination of the proposed vehicle procurements.

V. Can the Federal Government create an entity to perform the 305(c) Activities?

There is scope for the federal government to take a separate route to creating a corporate entity to carry out this task. However, it is believed that the intent of PRIIA was that the work of the NGEC should be the mechanism for creating any such entity should it be warranted and therefore, any alternative route would be counter to the intent of PRIIA.

Conclusion:

ANALYSIS AND RECOMMENDATIONS REGARDING FUNDING OF AN ENTITY TO MANAGE PRIIA 305 ACTIVITIES

Section 305(c) of PRIIA provides that Amtrak and States participating "may establish a corporation which may be owned or jointly-owned by Amtrak, participating States, or other entities, to perform these functions."

The "functions" to be performed are enumerated at the start of Section 305(c) as "the funding, procurement, remanufacture, ownership, and management of corridor equipment" (the 305(c) Functions). It appears that Section 305(c) was not overly prescriptive in these matters and seems to have intentionally provided for flexibility in determining the best institutional and structural arrangements under which to perform the 305(c) Functions. Even that a 'corporation' is the best organizational form to be utilized does not appear to be strictly prescribed by the statutory language.

For purposes of this section on funding and financing the entity (the "305(c) Entity") that in turn is to perform the 305(c) Functions, it is assumed that a newly-formed corporation, whose stock is held by Amtrak is as good a 'straw-man' as any, for which to think about and analyze the funding and financing possibilities to support the operation of a new entity engaged in carrying out the 305(c) Functions. While Amtrak is identified as a route for this entity in this analysis, the analysis would hold the same for a separate corporate entity. If the states are to acquire the equipment and have title themselves, the following analysis would be considered moot.

I. Funding alternatives

A. Federal Government Funding-

It seems fair to start with Federal funding as a primary source of grant funding in support of the 305(c) Entity.

Title III-Intercity Passenger Rail Policy of PRIIA, dealing with Intercity Rail Policy provided authority to the Secretary of Transportation to make various capital grants in support of the development of Intercity Passenger Rail and PRIIA is not the sole source of authority for such grants.

For example in May 2011, the States of Illinois, Michigan and Missouri were awarded a Federal Grant of $268MM under the High-Speed Intercity Passenger Rail ("HSIPR") program for purposes of the acquisition of forty-eight (48) passenger rail cars and seven (7) locomotives to be utilized in corridor service on eight (8) Midwest corridor lines. Although PRIIA established the framework for the HSIPR program, the $268 Million awarded in this case was part of a later $2.10 Billion appropriation by Congress.

In general, Federal funding can come in the form of intergovernmental grants, either structured as pay-as-you-go funding or as annual payment streams. In some cases, Federal grant funding can be leveraged to provide financing such as via GARVEE Bonds which have been issued for State Departments of Transportation (e.g. Michigan, Missouri, Delaware), State Infrastructure Banks, and in at least one case a GARVEE financing is under development for a transit agency. It appears that Federal grant funding for passenger rolling stock acquisition can be paid to the contemplated 305(c) Entity and that this could be one substantial source of funding.

B. State Governmental Funding-

It is conceivable that the 305(c) Entity could receive capital funds via State grant funding from States that will benefit from corridor passenger rail service to be provided utilizing the passenger rail rolling stock that the entity will acquire. The grant funding would presumably have to be approved via the appropriation process utilized by a given state and then provided to the entity for purposes of acquiring rolling stock. This might involve one-year contributions or it might involve multi-year periodic payments from given States. The grants might be determined by a formulaic 'match' proposition where a State would put up a certain percentage 'match' against Federal funds received or against private finance raised, or against an Amtrak contribution. It is not recommended that the individual States receive formal equity ownership in the 305(c) Entity for various reasons, e.g., the laws or constitutional frameworks of some States would prohibit them holding an ownership interest in such a venture. There could be some other institutional framework by which the States provide guidance, input, etc. to the policies and operation of the 305(c) Entity, such as an advisory board. It would be important to ensure that any state funding was not construed as a cross subsidy to another state's services.

II. Financing Alternatives

A. Federal Financing Programs-

(i) RRIF Loans- The Federal Railroad Rehabilitation and Improvement Financing Program ("RRIF") is a large ($35 Billion in authorized lending capacity) FRA administered financing program of which perhaps $1-$2 Billion in funds are currently committed. Amtrak accessed the RRIF program for a $100 Million loan in 2002 and fully retired such loan. Amtrak has been newly granted a $562 Million loan facility in June 2011. The loan proceeds will be almost entirely dedicated to the acquisition of new locomotives to operate on Amtrak's Northeast corridor. The funds are available for loan terms of up to thirty-five (35) years and interest rates are based on the cost of funds on U.S. Treasury borrowings for like terms. A separate 'credit premium' intended to cover the credit risk to the U.S. Government of making RRIF loans is calculated by OMB and

charged to the Borrower up-front. Nevertheless, the all-in cost of borrowing can be very competitive.

Borrowings under the RRIF program are accessible and could definitely serve as one component of the capital structure of the Section 305(c) Entity. RRIF loans may be issued on a subordinate basis and thus could comprise a part of the senior or subordinated debt element of that structure. The federal government has made it clear that any repayment of RRIF loans should not be via federal appropriations but must come from another source.

(ii) TIFIA Program Loans- As opposed to the FRA's RRIF program the Federal TIFIA program is currently underfunded and oversubscribed. Legislation has been introduced to significantly expand the program however given the balance of power in the current Congress, it cannot, by any means, be viewed as certain that the program will be expanded. To the extent program funds are available, TIFIA could serve as a flexible source of financing together with other Federal and non-Federal sources of debt. Historically, TIFIA credit has been provided to highway/road projects far more than to support passenger rail but there have been transit or passenger rail focused loans. Washington Metropolitan Area Transportation Authority ("WMATA") was granted a $600 Million loan guarantee to support its commercial paper program and finance system redevelopment. As with RRIF, it would be necessary to identify the repayment sources for the loans.

B. Tax-Exempt Bond Financing-

One of the most challenging and interesting parts of looking at the financing alternatives for the Section 305(c) Entity will be determining whether structuring will allow for the issuance of tax-exempt debt instruments.

Amtrak itself is, of course, not precisely an agency of the U.S. Federal Government, rather is it a private corporation whose preferred stockholder is the Secretary of Transportation acting on behalf of the United States of America. Amtrak is not qualified to itself issue tax exempt debt but has, when appropriate, issued "private activity bonds" through an appropriate conduit vehicle such as the Pennsylvania Economic Development Authority ("PEDFA") and Philadelphia Authority for Industrial Development ("PAID"). Private activity bonds are exempt from Federal income taxation (but NOT from taxation under the alternative minimum tax regime of the Federal Income Tax). Further, private activity bonds may be issued for purposes of capital investment in qualified "Mass Commuting Facilities" but generally, investments in railroad rolling stock has not been viewed as a qualified use for private activity bonds.

In view of the fact that tax-exempt debt is generally issued with interest rates superior to the debt of the U.S. Federal Government, it would be enormously beneficial to be able to finance the Section 305(c) Entity with tax-exempt debt. This part of the structuring

investigation for the new entity requires additional work and requires the collaboration of tax counsel. It may be that the newly-formed entity will be a non-profit corporation owned by Amtrak or it may require a variation thereon, or a completely different structure. We should retain tax counsel, investigate, and draw conclusions about how to go about accessing tax-exempt financing sources for the new entity should such an entity be the preferred course of action.

C. Taxable Public or Private Debt Issuance and/or Bank Debt-

There are no tax-code issues with the Section 305(c) Entity issuing taxable long-term debt, in public markets or via private placement. Similarly, the entity can access bank financing, long-term or short-term, commercial paper, etc. This would be subject only to the terms of the governing articles of incorporation of the entity and the satisfaction of credit review by the prospective debt holders. As previously indicated, taxable financing is generally more expensive than tax-exempt financing and every structuring effort should be made to qualify the new entity for the issuance of tax-exempt debt.

D. Lease Financing of the Entity's Fleet Acquisition Program-

Amtrak has used tax-oriented leveraged lease financing as the primary means of financing rolling stock for over two decades. Equipment acquisition financed via lease financing cumulatively exceeds $4 Billion. Lease financing has been extremely effective for Amtrak and has resulted in favorable financing costs since the tax benefits of equipment ownership were monetized by the Lessors and passed through in some part to Amtrak. Leasing allowed for very favorable advance rates with 100% of equipment cost financed and probably allowed Amtrak's credit profile to be more favorably received than it would have if debt financing, public or private had been utilized.

The lease financing marketplace contracted enormously during and after the financial crisis of 2008-2009 and has only partly recovered to-date. The money-center banks that had predominated as providers of lease equity withdrew from the marketplace and have only started to return. Changes in the accounting treatment of lease financing transactions have also had a very substantial impact and have made lessors less willing to finance via lease structures and have simultaneously made lessees more conscious of the changed accounting treatment for leases. In summary, lease financing of rolling stock continues to be an option but not as attractive an option as it was in decades past.

Comparing the cost and other advantages of utilizing tax-exempt debt against leasing, it would be likely that tax-exempt finance would be the less costly option, thus the importance of fully investigating the structuring issues around creating a 305(c) Entity that will be able to issue tax-exempt debt.

III. Other issues related to Funding/Financing

A. Capital Structure (Debt/Equity Ratio, etc.) -

Assuming that the 305(c) Entity is created as an Amtrak subsidiary, the question arises as to what type of capital structure should be employed? what should be the ratio of equity to debt? the sources of equity capital? Etc.

These questions cannot be answered with finality at this point, nevertheless some things may be said in answer to these questions. Some reasonable amount of equity capital will have to be injected into the 305(c) Entity. Grant Funding received from the Federal Government can function as and be treated as equity capital and will reduce or conceivably eliminate the need for Amtrak to contribute its own funds as equity. To the extent that Grant Funding is inadequate, Amtrak may have to plan on contributing equity capital down into the wholly-owned 305(c) Entity. It would seem that, as a rough rule of thumb, at least 20% of the capitalization of the entity should be equity capital, either contributed by the Federal Government via Grant Funding or provided by Amtrak as capital invested in its subsidiary. This rough estimate needs to be tested by working with some substantive estimates of the amounts to be invested in new equipment, the amounts recovered via corridor charges, expenses of operating the entity, various risk assumptions to be made, etc.

III. Payment Alternatives

A. Capital Payments

The costs of supporting the funding of equipment will have to come from some sort of payment mechanism. Ultimately, if the business is to be sustained, the payments received must be sufficient to pay for the costs of funding the equipment. Depending on the mechanism by which the initial capital costs are supported, the level of payment necessary for the access to the equipment will vary.

If the equipment is 100% funded by grant money, there is no cost to be supported for the acquisition. However, if there are through life capital costs associated with sustaining the equipment in service, a capital fee will have to be sufficient to meet those capital needs as they occur. If there is no grant funding, the capital fee will have to cover the full financing costs of the original acquisition along with any through life capital costs that are projected. If a proportion of the capital cost is covered by grant funds, the capital fee will be proportionally reduced.

Assuming the grant funding will cover some part of the acquisition cost, the question then becomes the most appropriate route for that funding to be allocated. Should the grant funds go directly to the entity to reduce the capital funding needs or should the money be allocated to states for use in meeting their capital fee payments?

The determining factors here may be related to the availability of funding. If the grant funds do not go directly to the entity, it will have to raise funds by other means which will incur a cost of capital. This will ultimately increase the overall cost. However, if there is limited grant funding available in early years, this might be an acceptable solution. Should the funds be available at the outset, the lowest cost solution of providing it to the entity would be preferable.

If the funds are only available in future years, the grants could be allocated to the states to allow them to meet their capital fee payment requirements. This could be aligned with the match requirements such that the grant funds provide the federal part of the capital fee and the state provides its match percentage through its part of the capital fee. Given that the capital fee is designed to cover through life capital investments, this would provide clarity of the contributions from both the federal government and the states for the total capital cost of the equipment over its life.

B. Operational Costs

Aside from the capital costs of the equipment, if an entity is created to own the equipment it is going to have overhead costs associated with operating on a day-to-day basis. These will also need to be funded through a mechanism to be determined.

Options for funding this include:

- Appropriations – Federal funding could be allocated through appropriations to cover the operating costs of the entity. This would require legislative approval and would be subject to annual appropriations debate which might undermine the long term stability of the operations.
- Membership fees – States that are participating in the equipment pool could pay a membership fee for the service the entity provides. This fee structure would have to reflect the changing costs of the business on an annual basis and might require a mechanism to ensure that states pay their appropriate share. How this would be funded from the states might be difficult to get agreed initially and might, again, be subject to appropriations debates, this time in the individual states.
- Surcharge on the capital fee – Since a capital fee is to be charged for the provision of equipment, it would be possible to increase that fee by an amount to cover the operating costs of the business. This is the way that a traditional operating lessor would operate. Since the fees would be part of the capital fee, that would provide a mechanism for ensuring that it was fairly allocated based on the amount of equipment each state was making use of.

ANALYSIS AND RECOMMENDATIONS REGARDING MANAGEMENT ACTIVITIES AND PROCESSES FOR PRIIA SECTION 305 RELATED ACTIVITIES

This section of the report identifies the "Management Processes and Resources" required to successfully manage the procurement of PRIIA NGEC passenger equipment and locomotives. It will summarize key work required from the development of the NGEC technical specification, through the evaluation of contractor proposals, contractor selection and notice to proceed (NTP), and the owner Program Management required of the selected contractor (carbuilder) for the design, production, test, inspection, and warranty phases of a successful railcar procurement. By example, a program to procure an order of 150 coaches will have on average a life of 6-7 years from NTP to expiration of component warranty if the procurement is completed as scheduled (Attachment 1 – GAO Report June 2010 "Fig.2 - Stages of New Rail Car Development and Manufacturing"). The Acquisition Program Requirements Section III will describe the scope of the work that is required and the level of technical staff (probably consultant engineers) required by the owner to manage the contract and interface with the contractor to ensure a successful acquisition program.

First are described the mandatory management processes and technical resource requirements for an owner acquisition program, regardless of whether it is a single state, or Amtrak, as a sole prospective owner, or the aggregated procurement of the partners or a new corporate entity . Then will be described the additional resources required under other scenarios, including a new corporate entity. This will provide the Executive Board with a comparative analysis of the respective costs and benefits of all scenarios and the time line for creation of any scenario new entity.

Also, it is believed to be important to understand the US passenger railcar market and the size of the Intercity/State Corridor market (PRIIA Sec. 305) relative to the total US railcar market. In addition, it is important to understand that all the major carbuilders participating in the US market are international corporations with international market strategies. It is also important to understand how the US market compares to the international markets relative to size and opportunities. This information is intended to provide a perspective from the US carbuilder side of the PRIIA initiative and expectations the NGEC should have for prospective bidders. This information will be summarized in Section II.

The report format will be in both a narrative and outline format, integrated together, to identify and provide a meaningful summary of the key issues for consideration. It will highlight the major issues for consideration to enable the Executive Board to analyze the comparative benefits, costs, and timeline for each scenario that should assist in its PRIIA vehicle acquisition decision making process.

I. The Working Group identified the following three scenarios as the range of structures for Railcar Acquisition/Procurement Programs.

The acquisition process identified in this report is common to any passenger railcar/locomotive procurement regardless of the structure scenario of the entity. The Working Group identified the following four scenarios for analysis:

a. Scenario 1 – NGEC Exec Committee Provides Technical Specification and sharing of knowledge to States and Amtrak for their respective individual procurements, utilizing a standardized PRIIA technical specification.
b. Scenario 2 – Aggregate technical requirements of the States and/or Amtrak for procurement activities utilizing the PRIIA technical specification that may encourage a greater number of interested carbuilders/bidders resulting in improved economies of scale on price and or delivery due to larger quantities of vehicles.
c. Scenario 3 – An entity is created to manage and undertake the procurement activities and the equipment is then assigned to the states that are funding it.
d. Scenario 4 – New corporate entity undertakes acquisition for all states and/or Amtrak, funds, owns, maintains, and refurbishes equipment throughout its life; in effect creating a fleet or pool of vehicles for distribution/allocation to the States and/or Amtrak.

Later in this report will be described additional management processes and resources if Scenarios 2, 3 or 4 are desired. I will use Scenario 1 as the baseline for comparative purposes.

II. US Passenger Railcar Market Profile-Past 10 Years history 2000-2010 and 5 Year Forecast 2011-15 (include data and color bar charts or pie charts)

a. Total US Railcars in service, by technology mode
b. Percent of market by vehicle technology
c. Car builder view of US Market
d. Potential Car builders – US Stainless Steel Car-shell technology capability-NGEC Requirement via technical specification and Buy America requirement

Fig. 1 US Fleet of Passenger Cars by Vehicle Technology-2008, Source APTA

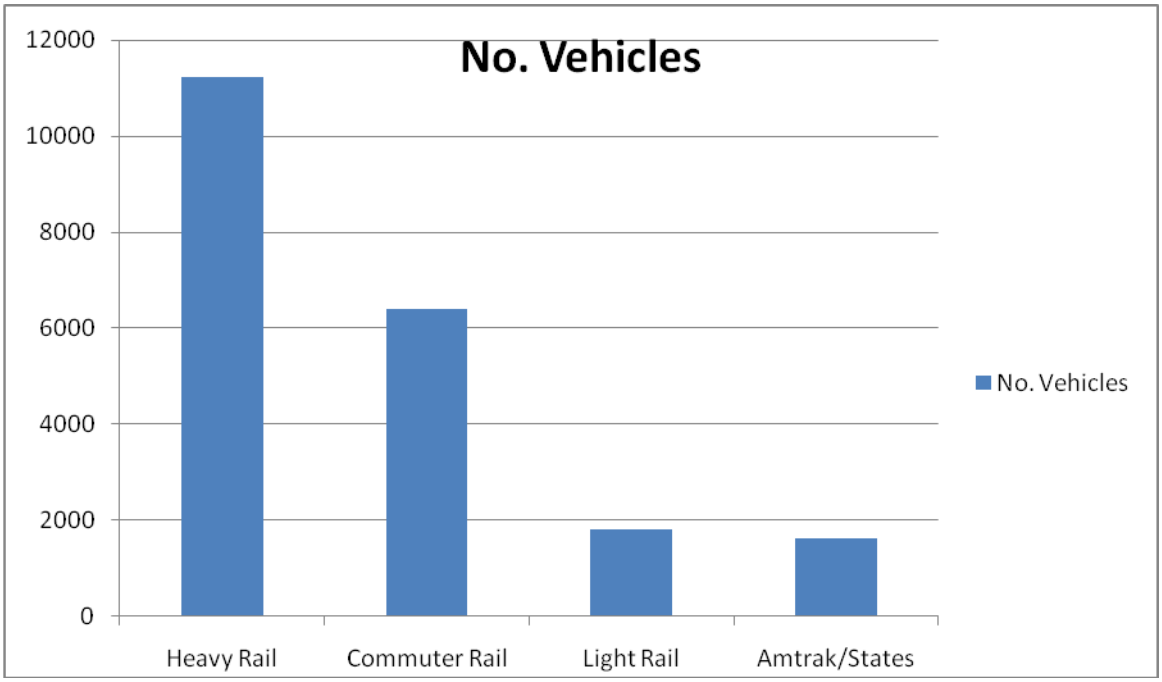


Fig. 2. Age of US Fleet of Passenger Cars by VehicleTechnology-2008, Source APTA

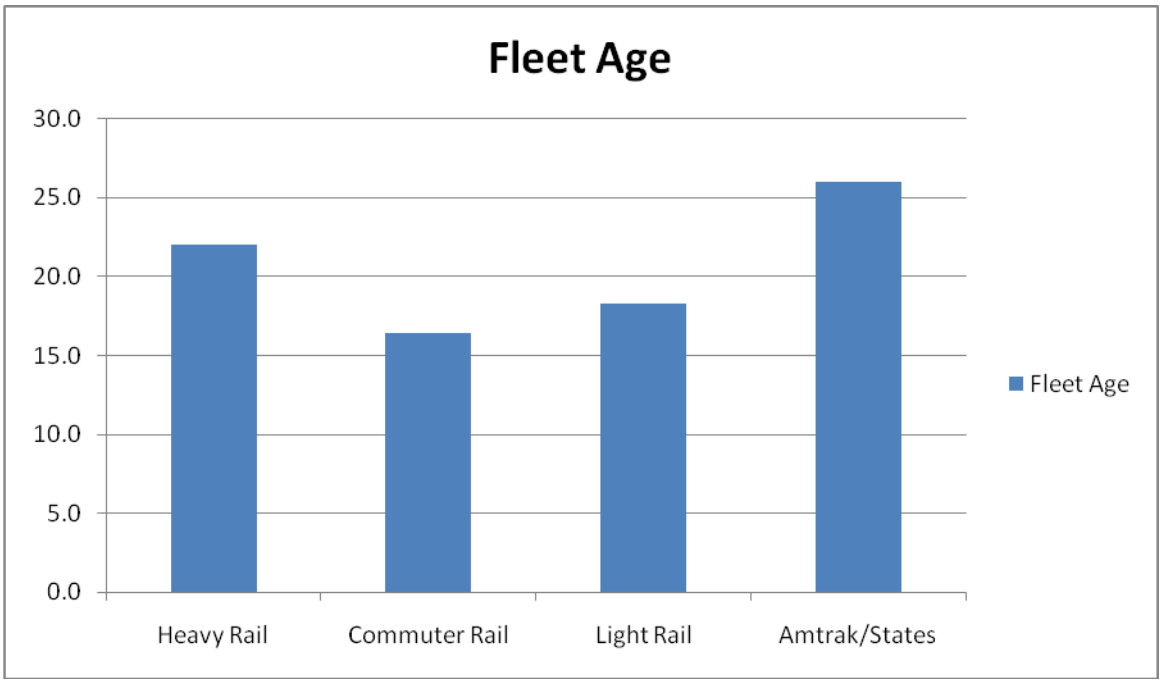


Fig. 3 US Market Orders-Undelivered Backlog 2010, Source: Railway Age

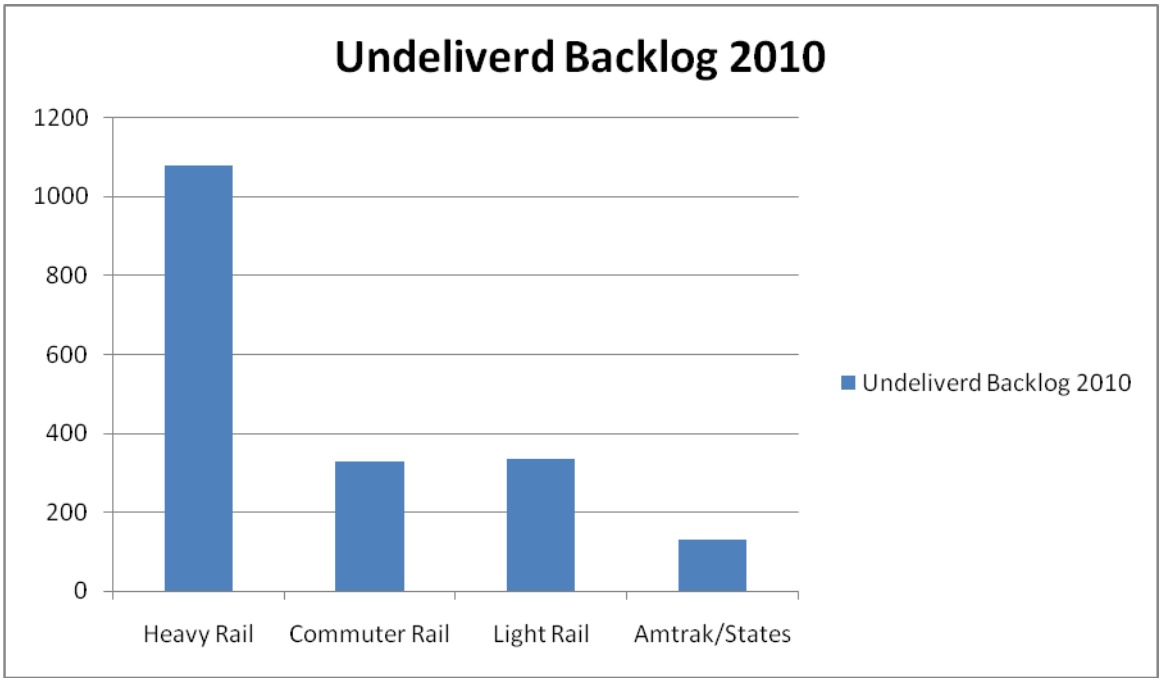
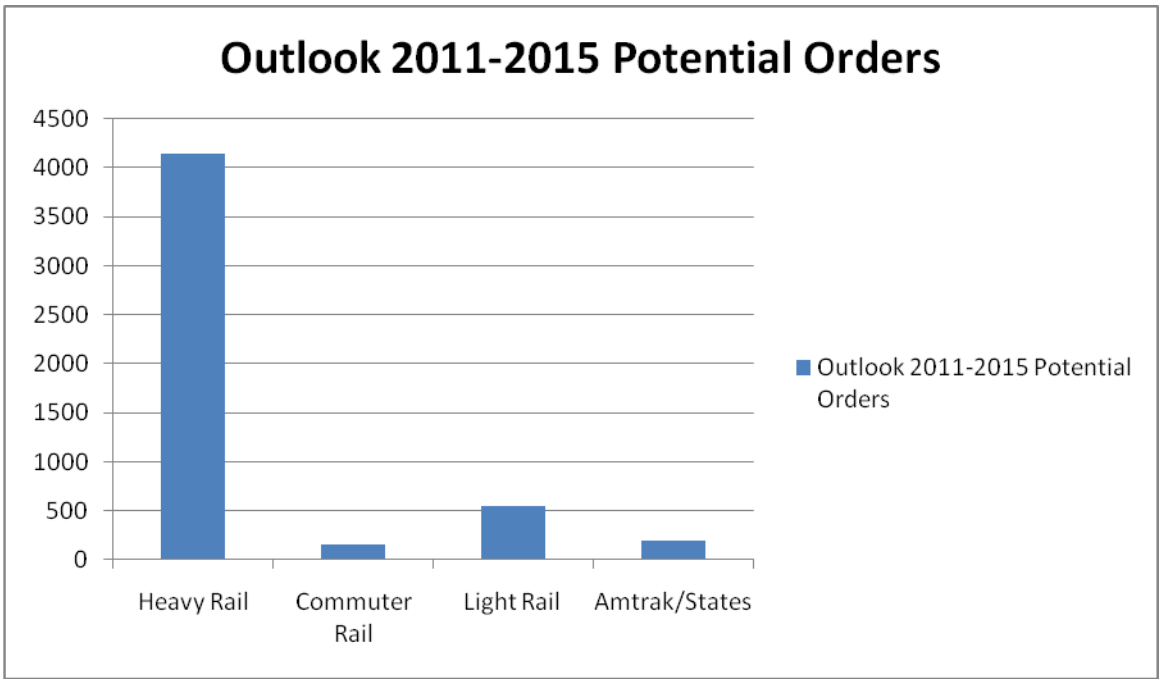
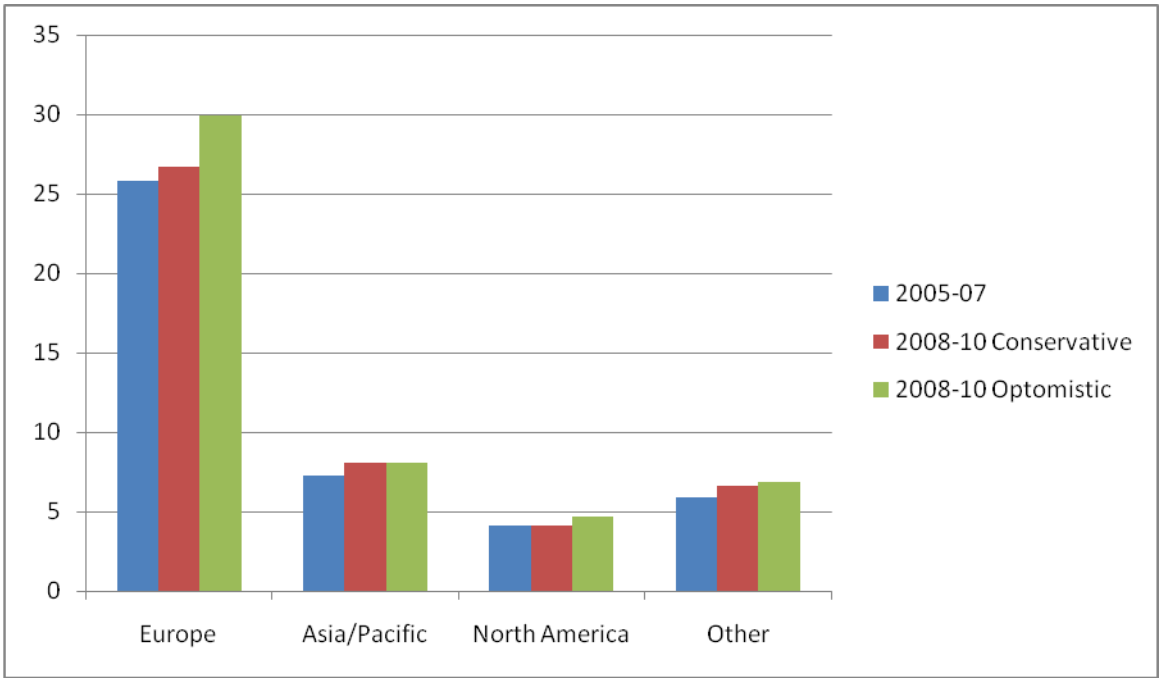


Fig. 4 Five Year Forecast-2011 – 2015 Source: Railway Age Jan. 2010



Note: These above figures do not include Amtrak's February 2011 Fleet Strategy which documents a continuous demand of 65 single level and 35 bi-level cars to replace its aging fleet.

Fig. 5 World Market Growth for Railway Equipment between 1.8% and 4.8% Per Annum 2008-10



III. Acquisition Program Requirements-Management of Technical and Commercial Specifications , Evaluation and Selection of Carbuilder, and Program Management of Procurement through Design, Production, and Warranty Phases of Railcar Contract

The core technical and administrative resource requirements for the management and control of an intercity passenger railcar or passenger locomotive contract (the Project) are common to all of the identified scenario "structures" noted above, regardless of which organizational structure is eventually selected by the NGEC Executive Board. The only difference is who will perform the necessary and essential program management and under what organizational structure, not how.

The Project management technical and administrative work consists of ensuring engineering and design documentation, testing, production inspection, manuals, mockups, training program, software, licenses, special tools, test equipment, and other deliverables and services to the owner are performed in accordance with the technical specification and contract. The contractor shall be responsible to ensure proper interrelation, functioning and systems integration of all aspects of the work related to the vehicle systems and their relationship with other equipment and systems of the vehicle.

This Management Section identifies the processes and resources required to manage the Project major critical tasks that are required to be completed by the contractor in a coordinated and planned sequence (critical path) of a complex product. It is essential that the "owner" provide the Project with technical and administrative management expertise (staff) with the ability to technically interface with the contractor daily to provide direction for tasks requiring owner approval, clarification, or analysis. The objective is to ensure the contractor's quality output. The quality of the Project management is directly proportional to the technical expertise of the personnel assigned. It is imperative to select the most qualified people or consulting engineers.

The Executive Board's Technical Subcommittee in effect acted as the engineering department or engineering consultant for the owner in developing the technical requirements specification. The Executive Board established the Requirements Document defining the key technical, performance, safety, consist, environment, dimensions, and track geometry requirements. The Technical Subcommittee and its members developed the detailed technical specifications which were reviewed by a Review Panel and recommended for approval by the Executive Board Therefore, I will not elaborate on the technical specification process that has been completed which is outlined below. This section of the report will focus on the management processes and resources necessary to evaluate and select a qualified carbuilder, through the Program Management resources needed for oversight and interface with the carbuilder through all phases of the contract: design, production and warranty.

a. Technical Specification Development and Procurement Process

    i. Technical
        1. Conceptual development-NGEC Requirements Document
        2. Detailed technical Specification outline
        3. Draft technical specification-Tech. Subcommittee/Review Panel
        4. Review and approval by NGEC Executive Board

5. Final Edits

ii. Commercial
    1. Bonds: performance, payment, and warranty
    2. Contractor financial capacity
    3. Non-Recurring cost allocation if more than one owner/participant in procurement
    4. Contractual terms and conditions
    5. Proprietary issues: software, licenses, patents
iii. Evaluation and Selection Process- (see Program Director below)
    1. RFI phase
    2. RFP phase
    3. Cost/price analysis
    4. Contractor (s) Evaluation phase
    5. Selection and NTP

b. Owner Core Staffing Skills, Capabilities and Experience Requirements
    i. Project Director (owner employee)-an experienced Program Manager, with "owner final authority for all contract decisions" will provide oversight of program progress and ensure that the program has the proper resources to support project needs. The staffing of the Project is often accomplished by hiring an experienced vehicle engineering consulting firm.
    ii. Program Director/Manager (probably vehicle engineering consultant firm-reports to owner Project Director) is responsible for preparing overall program work plan and schedule denoting detailed work tasks and deliverables by monthly periods, and detailed schedules showing milestones for reviews, inspections, and testing. This individual has a significant staff of technical engineering expertise that is involved in all technical oversight aspects of the contract with the carbuilder, including review and recommendation of contractor milestone payments that are generally a percentage of contract value:
    iii. Program Engineer (s)
        1. Mechanical
        2. Electrical
        3. Systems integration
        4. Inspection
        5. Test
        6. Warranty

c. Evaluation of Supplier Proposals – consulting expertise (Program Director) is often required to evaluate both the technical and commercial proposals of the prospective carbuilders. These proposals are voluminous and require technical expertise to verify contractor representations of technical specification compliance, cost/price analysis, and often pre-

award audits (strongly recommended) are performed including visits to the contractors manufacturing and assembly facilities before contract award.

i. Technical proposal review
ii. Commercial proposal review
iii. Pre-award review and audit of contractor proposal, visit contractor facilities
iv. Contractor Project milestone verification-Critical Path Contract Schedule

d. Contractor Critical Path Management (CPM) based schedule is essential – contractor must utilize a "logic based" software. There are several software products on the market. It is essential that the Contractor (carbuilder) use an approved industry standard computer driven CPM plan to schedule all activities related to the contract, including its work, and the work of its subcontractors and major supplier's work. The CPM system should be approved by the owner. The CPM Plan should have a precedence-type network, with the start date being the NTP, with every milestone listed in the Contract Terms and Conditions being identified, including the delivery of each car. All intermediate milestones should be shown in proper logical sequence. The CPM Plan should include all of the Contractor's work activities with sufficient detail such that all interfaces with all direct and related parties of the project are highlighted. The work of subcontractors and suppliers shall be shown on the schedule, being supplied by them and updated at least every 30 days. Major procurement activities shall be indicated, including submittal and approval of engineering drawings, First Article Inspections, and delivery of all material. Particular attention shall be given toward the early detection of supplier delay, to allow proper response by the Contractor as soon as possible. A high priority shall be keeping the CPM Plan updated.

In addition to the monthly updated CPM Plan, the Contractor should submit to the Owner/Customer a monthly progress status report in the form of computer printouts and a narrative report. The narrative report should state the percentage of work physically completed, progress during the report period, and identify areas of concern or problems known or anticipated that could delay the project, along with recommendations for corrective action. I cannot emphasize the program management of the CPM Plan more strongly to ensure a successful program.

For its internal purposes, the supplier should have a CPM plan that breaks down to individual elements of the Work Breakdown Structure (WBS) with individual WBS elements being no longer than one working week. This will allow the accurate tracking of progress on a real time basis and avoid the late discovery of program delays.

e. Project Management and Administration

i. Project Management Program Work Plan and Schedule
   1. Work Plan details Contractor and all subcontractor/supplier tasks and submittal requirements (CDRLs) and timing for completion
   2. Schedules (CPM) sufficient detail to identify milestones for design reviews, first article inspections, testing, contract payments, and warranty administration
   3. Engineering Phase
      a. Drawing Review and approval, including mockups
      b. Technical submittals and reviews-CDRLs
      c. Test Procedure Review
      d. System Safety Plan
      e. Quality assurance plan
      f. Reliability Program Plan Review and Evaluation

ii. Test Phase
   1. Design Conformance Testing
   2. Production Conformance Testing
   3. Vehicle Acceptance Testing

iii. Inspection
   1. First Article Inspection (FAI) – carshell and component suppliers must pass FAI "before" production of components
   2. Fabrication Plant inspection – production inspection hold points
   3. Component Source Inspection – QA production verification-ongoing

iv. Technical Support-
   1. modifications and enhancements to rolling stock-owner desired
      a. Cost/benefit analysis
      b. Conceptual design
      c. Commercial requirements
      d. Recommendation
      e. Revise manuals and catalogues
   2. Accident Analysis
      a. Electrical, mechanical, structural expertise
      b. Cost estimating for repairs/insurance
      c. Selection of repair contractor
   3. Warranty Administration
      a. Careful and deliberate record keeping of vehicle failures

b. Engineering support to assist in resolution of warranty issues with component suppliers/carbuilder

f. Project Administration
   i. Establishment of Document Control – The Owner/Customer and Contractor must agree on a common correspondence identification coding system. All correspondence must be coded by the sender to designate the originator and with a unique sequence number and date to ensure unmistaken identity. All submittals must be made by the Contractor through the use of written correspondence describing the purpose of the submittal and the anticipated work and response by the Owner/Customer.
      1. Correspondence control
      2. Drawing control
      3. Inspection reports Control
      4. Test documentation control
      5. Change orders/change control system (see NGEC Plan-Configuration Management issues)
   ii. Financial management, coordinate project revenue (s) source with payments for engineering consultants and railcar contractor

g. Project Progress Reporting
   i. Schedule and budget summary and commentary on all phases of contract phases, design, production, inspection and test
   ii. Detailed schedule review each month,
   iii. Overview of significant events
   iv. Overview of unresolved problems, actions plans, corrective plans
   v. Update on principal areas of concern/project risk logs

h. Owner must identify contract operator (unless Amtrak) with both right-of-way for acceptance test and operation and facilities for warranty and maintenance requirements
   i. Amtrak
   ii. Third party

IV. Management Structure and Resources for Three Scenarios (Organizational structures must include Procurement, Program Contract Management and Finance for each of the three structures). The NGEC pooling of equipment concept under each scenario must be analyzed, i.e., the pros and cons, economies, costs, etc.
   a. Scenario 1
   b. Scenario 2
   c. Scenario 3

Attachment 1

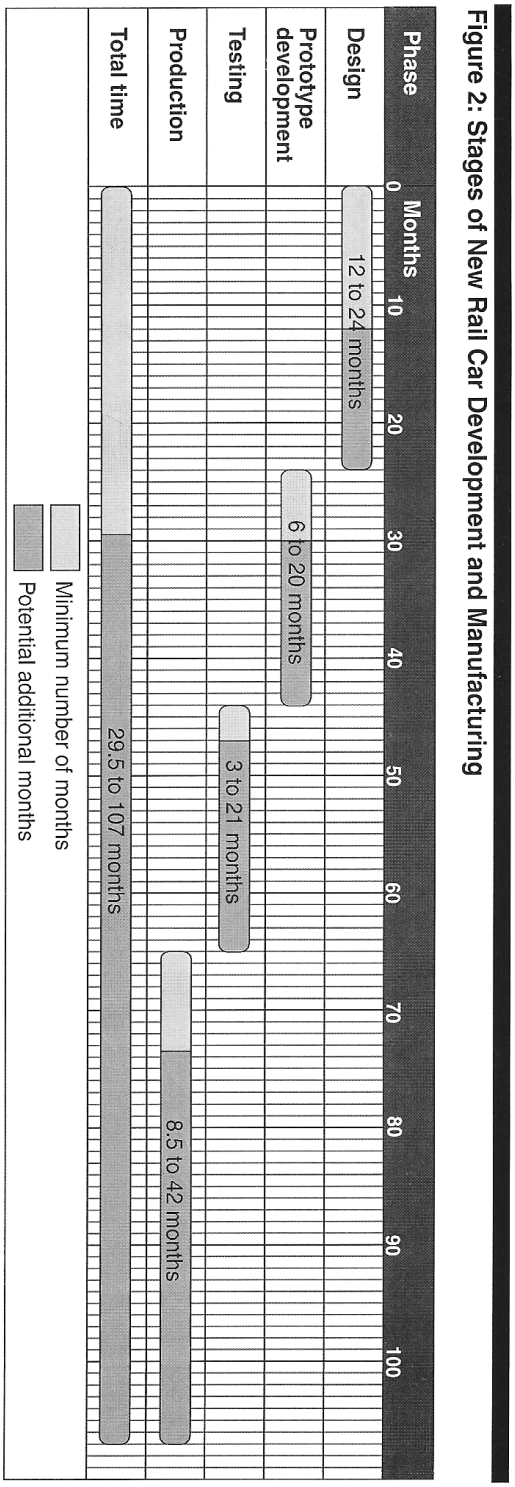


Figure 2: Stages of New Rail Car Development and Manufacturing

Source: GAO interviews with rolling stock manufacturers.

Attachment 2

DRAFT

CA-Statewide-Rolling Stock Acquisition
Procurement Schedule through NTP

Friday, June 17, 2011

	Activity Name	Start Date	Finish Date
1	**Rolling Stock Acquisition Project**	**7/1/11**	**6/29/12**
2	**RFI Process**	**7/1/11**	**11/30/11**
3	**RFI Developed**	7/1/11	8/30/11
4	**RFI Released**	8/30/11	8/30/11
5	**Vendor Review of RFI**	9/1/11	9/21/11
6	**Vendor Questions/Teleconference**	9/21/11	10/7/11
7	**Vendor Responses to RFI**	10/7/11	10/31/11
8	**RFI Closed**	10/31/11	10/31/11
9	**RFI Analysis**	11/1/11	11/30/11
10	**RFP Process**	**7/1/11**	**6/29/12**
11	**RFP Development**	7/1/11	11/30/11
12	**RFP Released**	11/30/11	11/30/11
13	**Vendor Submittal Development**	12/1/11	2/28/12
14	**Draft Submittals Due**	2/28/12	2/28/12
15	**Draft Submittal Review**	3/1/12	3/30/12
16	**Develop BAFO**	4/2/12	5/15/12
17	**Submit BAFO**	5/15/12	5/15/12
18	**Negotiations with Bidders**	5/15/12	6/1/12
19	**Contractor Selected**	6/1/12	6/1/12
20	**Finalize Contract**	6/1/12	6/29/12
21	**NTP**	6/29/12	6/29/12

Page 1 of 1