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DISPATCHING FACILITY****TABLE OF CONTENTS**

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## SECTION 1

# COORDINATED MAINTENANCE AND DISPATCHING FACILITY: OPERATIONS PLAN

## INTRODUCTION

This report describes the Operations Plan for a Coordinated Maintenance and Dispatching Facility for transit providers in the San Luis Obispo region. The Operations Plan is one of four elements covered in *Phase II: Coordinated Transit Maintenance and Dispatching Study* sponsored by the San Luis Obispo Council of Governments.

This report provides detailed specifications as to how a proposed coordinated maintenance and dispatching facility will operate. Terms of the shared facility were negotiated with participating operators San Luis Obispo Regional Transit Authority (RTA) and Ride-On Transportation. An operating agreement which addresses all functions related to jointly operated systems is outlined. Outside contracting opportunities with other public and private entities will be explored to improve the financial viability of the proposed facility.

The coordination of maintenance and dispatching functions for the independent transit operators in the San Luis Obispo Region offers substantial potential for improvements in cost effectiveness and operating efficiency.

The **Operations Plan** resulted from an analysis of the operator's current maintenance and dispatching operations and participation from the operators in making key decisions during planning process. The result is a plan that is realistic and that can be implemented in phases to meet immediate and long-term facility needs. An agreement was reached that the initial participants in a coordinated facility plan would be San Luis Obispo (RTA) and Ride-On Transportation. The participants would collaborate on a *Memorandum of Understanding* (MOU) between them to establish



terms for working with a maintenance vendor as the provider of maintenance services.

## BENEFITS OF COORDINATION

The coordination of maintenance and dispatching functions offers substantial benefits for the participating organizations and ultimately the passengers served by the systems. These benefits include both quantitative and qualitative elements. This Operating Plan lays out many of these benefits. An attempt has been made to quantify these to the extent possible. This exercise has been somewhat limited by the availability of cost and operating data and the differences in the available data between the two major participants (RTA and Ride-On). The following analysis sets the stage for approval of the Plan by the participating entities and the implementation of this Plan through various cooperative decisions.

### MAINTENANCE COORDINATION

The following benefits have been identified by the consulting team as available to the participants in a coordination effort:

- Cost Savings on facility lease:** While a final facility has not been identified for the co-location of RTA and Ride-On, the physical consolidation of RTA's and Ride-On's maintenance functions with consolidation of RTA administrative offices at the same site would offer some cost savings over the current separate arrangement. The following is a brief summary of the potential impact:

CURRENT SPACE	CURRENT LEASE COST
RTA Maintenance Facility <i>(included in Southland contract)</i>	\$ 2,355
RTA Administrative Offices	\$ 4,000
Ride-On Maintenance Facility	<u>\$ 1,400</u>
<b>Total Monthly Lease Expense</b>	<b>\$ 7,755</b>

- Cost Savings on Operating Expense:** In the absence of a final facility site, it is not possible to be totally precise regarding

***COST SAVINGS  
IS THE MOST  
IMPORTANT  
BENEFIT TO BE  
REALIZED.***



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***LONGER SERVICE  
HOURS AND  
HIGHER LEVEL  
OF IN-HOUSE  
EXPERTISE ARE  
ALSO EXPECTED  
BENEFITS***

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the potential cost savings associated with the operation of a coordinated maintenance program. This is largely due to the impact on the cost of non-revenue mileage with the new facility also serving as the parking location for the majority of the fleet. However, some potential cost-saving opportunities have been analyzed. Consolidation of the two agencies' maintenance functions could yield some savings in staff cost through consolidation of supervisory responsibility. This would have to be carefully planned in the final staffing configuration because rather than saving cost, the agencies may choose to offer a higher level of service through expanded staffing.

- **Lower Rates through Higher Volume:** Distribution of maintenance services over a larger number of vehicles allocates maintenance overhead cost and equipment expense to more customers can result in overall savings. There is considerable expense involved in equipping a large transit shop. This equipment, once in place, could serve a large volume of activity, typically more than the combination of RTA and Ride-On. Under the plan outlined below, a maintenance vendor may be able to add business through servicing outside truck fleets or other commercial customers.
- **Improved Maintenance Technical Support:** Consolidation of the maintenance functions would clearly benefit both organizations through the expanded combined staff and its availability for extended hours and days of service. Combining the work forces of the two would allow for broader coverage of service hours thus enhancing emergency response capability.

### **DISPATCH COORDINATION**

The benefits identified from coordinating dispatch functions are more complex than for maintenance. This is largely due to the more intricate institutional issues in dispatch consolidation. The



**Figure 1: Dispatching** coordination would provide efficiency and effectiveness advantages.

following potential benefits have been identified as likely by consolidating dispatch functions of RTA and Ride-On:

- **Lower Dispatching Costs:** Increased productivity could be realized by eliminating staff duplication. Fewer staff personnel should be able to dispatch both fleets, particularly during non-peak periods. The consolidated dispatch staff could, therefore, be smaller than the two separate operations. Cost savings would then be generated from staff reductions. Improved use of technology would also increase productivity, improve efficiency, and assist in achieving the expected staff reductions.
- **Shared Rides:** One of the key reasons to consolidate dispatching is to allow for the sharing of rides among different client groups. The greatest potential for shared rides is between RTA Runabout riders and Ride-On's CTSA passengers, particularly seniors. However, Ride-On is limited in sharing rides with its major clientele, the Regional Center. However, its other riders can be accommodated on vehicles that also transport ADA passengers. Higher trip densities would also increase productivity and effectiveness measures.
- **Reduced Space Requirements:** Consolidating dispatch functions can allow for reduced space requirements. Fewer personnel would be needed overall to manage the same number of trips. Less space would need to be allocated to the dispatch function.

Coordination will require organizational adjustments as much as technical integration. Even though the two agencies use different computer scheduling systems, integration could be possible as long as there is agreement on passenger sharing and the resulting cost sharing.

Dispatch coordination is proposed for implementation in Phase II of the project implementation. Coordinating dispatch is considerably more difficult than maintenance. However, doing so could provide *one-stop* shopping for many of Ride-On's and Runabout's clientele. Key to achieving great improvement in



operating efficiency through coordination among the agencies will be the elimination of institutional or organizational barriers to mixing passengers from different programs. Ride-On is bound both by contract and functional reality to keep Regional Center clients separate on its buses. No mixing of Regional Center clients with other passengers is allowed under the existing contract. This rider group makes up fully 78% of Ride-On passengers.

## PROCESS

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***THE PLAN WAS DEVELOPED AS A RESULT OF A SERIES OF MEETINGS WITH AREA TRANSIT OPERATORS AND THE SCHOOL DISTRICT.***

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The development of the Operations Plan was a six month process and included three meetings with transit operators and San Luis Obispo Unified School District (SLOCUSD) to explore how or even if the maintenance and dispatching functions of the various operations could be coordinated to achieve greater efficiency and cost savings.

The first meeting was August 31, 2005. A second meeting was held on November 17, 2005. The participants included representatives from the following entities:

- **San Luis Obispo Council of Governments;**
- **Ride-On Transportation;**
- **RTA & SCAT (South County Area Transit);**
- **SLCUSD;**
- **SLO Transit.**

To assist in the analysis of the vast array of complex alternatives, the project was broken down into three components for coordination: Function, Facility, and Dispatching. A number of case studies which may serve as models for various scenarios were presented. The consensus reached during the meeting provided the foundation on which the Operating Plan was built. The group provided input on the following decisive factors:

- 1. Evaluation criteria;**
- 2. Project parameters;**
- 3. Level of participation;**



#### 4. Assumptions.

##### EVALUATION CRITERIA

The criteria by which options for the proposed coordinated maintenance and dispatching functional operation facility are evaluated include the following:

- **Lower overhead** and management costs;
- **Cost savings** through volume purchasing of fuel, parts, equipment, etc.;
- **Permanent facility** for operators who now rely on leased or contractor-provided facilities;
- **Improved reliability and flexibility in meeting demands;**
- **Mechanism to resolve any conflict** in setting priorities among the different operators;
- **No loss of control** by the individual operators;
- **Avoidance/resolution of union versus non-union issues;**
- **Determination for liability/responsibility issues if something goes wrong;**
- **No decrease in performance efficiency, including deadhead time and miles.**

##### PROJECT PARAMETERS

The project is divided into three sectors:

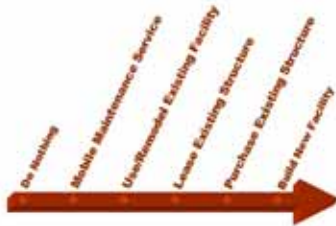
1. **Functional Continuum;**
2. **Facility Continuum;**
3. **Dispatching Continuum.**

##### FUNCTIONAL CONTINUUM

The project concentrated on developing a functional plan that centers on the *marketing model* and *joint contract* portions of the continuum. This scenario allows for the individual operators to determine the degree to which they will participate either through a contract arrangement with one of the operators who would



**Figure 2: The Functional Continuum** considers options for integrating maintenance from continuing the current operation (*do nothing*) to full consolidation of all maintenance operations under a new entity (*full integration: new*).



**Figure 3: The Facility Continuum** considers alternatives from keeping the current separate facilities (do nothing) to building a new facility to house all operators.



**Figure 4: The Dispatching Continuum** is more complex. The tasks involved with demand-response services are different than for fixed-route services.

incorporate the maintenance function into their operations and offer services to the other operators (*marketing model*) or enter into a maintenance contract with a separate outside maintenance vendor (*joint contract model*).

### FACILITY CONTINUUM

Originally, the facility option was less definitive. The preferred options appeared to be to use or remodel one of the operators' current facilities or to purchase or lease an existing facility and remodel it to meet the needs of the operators. However, building a new facility was not ruled out. The availability and suitability of potential structures and land will govern the approach. As the project progressed the goal became to find an existing facility for the short term and move toward a new facility in the long term.

### DISPATCHING

The two operators offering demand-response services, Ride-On Transportation and RTA (Runabout) along with the County services currently managed by RTA, agreed a consolidation of this function could provide mutual advantages and benefits to the client. In addition, all the operators agreed that a 511 concept to handle customer inquiries could be beneficial. Rideshare, which already has some of the required knowledge base in place, was suggested to be the appropriate organization to take the lead if this initiative is implemented.

### DEGREE OF PARTICIPATION

**Initially, only Ride-On and RTA indicated a willingness to move forward.**

Ride-On and RTA confirmed they were both wanted to move forward with the Coordinated Maintenance & Dispatching Facility program. SLO Transit and San Luis Coastal USD prefer not to go forward at this time, although both indicated that they may be interested in specific services in the future. SLO Transit and San




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***THE  
ASSUMPTIONS  
USED DICTATE  
MANY OF THE  
FACILITY  
PARAMETERS***

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Luis Coastal USD both have facilities that could possibly be expanded or added to that would possibly be suitable for the joint facility. Neither of the facilities has on-site fueling. SLO Transit recently installed a drive-through bus wash. These possibilities are being explored in the Site Evaluation section of the Phase II Study.

Both RTA and Ride-On are operating from leased facilities. Currently, RTA's operating contractor maintains the facility lease for the maintenance garage. RTA also maintains leased office space separate from its maintenance garage. It has expressed a desire to house all operations under one roof.

### **ASSUMPTIONS**

#### **TIMEFRAME**

The timeframe for this project is strategic (three to seven years), which is required to secure funding and possible construction; however, both RTA and Ride-On have current facility needs.

The first term of RTA's contract with Southland, the operating contractor, will expire in June. RTA has the option of either extending the contract with Southland with some modifications, or opening up the re-bidding process. In either situation, RTA will bring the maintenance facility lease under its direct control.

Ride-On has a year and a half remaining on its current lease. It has negotiated a contract with Southland, and may move its maintenance operations into Southlands/RTA facility.

#### **NEED FOR OFFICE SPACE**

Ride-On and RTA both indicated they would like to house their office staff and dispatching staff within the facility. The suggestion that additional office space (above current needs) be available as (1) potential income stream and (2) potential room to grow.

Office space can be added without necessarily increasing the footprint of the building by including a second or even third story



**Figure 5: Sufficient Office Space**  
*is required to house both RTA's and Ride-On's management and administrative staffs on the same property as maintenance and operations.*

build. The office space should be large enough to house RTA and Rideshare staff, Ride-On staff including dispatching, and RTA operation's contractor staff.

Other office-related space will be included:

- Dispatch/schedule center;
- Copy/break room;
- Conference/training;
- File storage;
- Central computers;
- Money-counting room.

#### **OPTIMAL SIZE & SPECIFICATIONS**

The primary specification is for service bays. With only Ride-On and RTA participating, a facility with eight to ten bays appears sufficient and allows for ample growth.

A standard bay can be used by one large bus or converted into two smaller bays for cutaways and vans. For ease of servicing, drive-through bays are preferred, which may require increased space for drive and service ways. Break rooms, locker rooms, and operations offices will be required if the drivers and the operating contractor share the site, which is the preferred configuration.

Other site specifications include the following:

- Canopy-covered fueling station (multiple fuels);
- Drive-through bus wash (also suitable for smaller vehicles);
- Parts and equipment;
- Hoists and/or pits;
- Employee parking (office and drivers);
- Bus parking (10-12 full-sized buses, 40-50 cutaways minimum);

#### **FUNCTIONS & SERVICES**

Preventive Maintenance Inspections (PMIs) and all routine functions will be performed in-house and technicians are expected



to develop considerable expertise on servicing the vehicles in the fleet.

Subject to the availability of the correct tools and equipment and an adequate supply of spare parts, trained technicians reach their highest level of productivity when they are performing repetitive tasks on similar vehicles.

Because of the specialized equipment, transit personnel are trained by the equipment manufacturers, and in some cases certified, to repair many of the unique components and systems installed on transit buses. The repairs typically include multiplex systems, radio communication and AVL equipment, destination signs, fare-collection boxes, pneumatically controlled doors, electronically controlled A/C systems and wheelchair lifts. In some cases seat repair and replacement must also be done in-house.

The Coordinated Maintenance Facility will consider becoming warranty-certified for the most common vehicles and equipment.

#### **USE OF SATELLITE LOCATIONS**

To minimize deadhead time, it is assumed SBDAR will continue using its existing FTA-funded facility, and SCAT will continue to use its leased facility, for PMIs and simple maintenance. The option exists for bringing in additional vehicles. A need for parking exists in North County.

RTA's large service area necessitates that approximately half of the large buses be parked at remote locations in North County, South County (Five Cities Area), and Cambria. However, for maintenance the vehicles are rotated and switched out at a central (San Luis Obispo) location. This practice will continue. However, for localized service, such as Nipomo Dial-A-Ride and Cambria Trolley, local service for the most common maintenance functions would be advantageous.



**Figure 6: Satellite Locations**, such as this SCAT location is Grover Beach would continue to be used to minimize downtime.



**Figure 7: Land Availability** is a major consideration. The area near the airport and Tank Farm Road appears the most promising.

The satellite facilities would maintain minimal parts inventory and continue to use a part-time mechanic rotating from the primary facility.

#### **AVAILABILITY OF LAND/STRUCTURE**

A critical assumption is that the needed land and/or facility can be obtained in a central location for a reasonable price. This element is covered in more detail in the *Site Selection and Environmental Factors* Section.

The current SLO Transit and SLCUSD sites were evaluated to determine if they could be expanded or re-directed in some manner to accommodate a joint facility. The airport and other centrally located industrial areas appear to be the most suitable.

#### **FINALIZE AGREEMENT**

A final meeting was held with RTA and Ride-On on January 17, 2006, to determine how the coordination of maintenance and dispatching functions would be implemented and operate in both the short and long term.

### **OPERATION PLAN PHASES**

Because both RTA and Ride-On had short-, medium-, and long-term maintenance and dispatching needs, we have separated the implementation of the Plan into three phases:

- **Phase I:** Near-term implementation of a joint program with certain steps being taken within a six-month timeframe to initiate the process;
- **Phase II:** Mid-range solution (one to two years), and may provide an alternate solution if funding is not available to implement Phase III or may be deleted in favor of maintaining Phase I coordination until Phase III can be implemented;
- **Phase III:** A long-term strategy during which funding would be sought for a new structure and longer-term collaborative agreements would be negotiated.



	FY 2006-2007	FY 2007-2008	FY 2008-2009	FY 2009-2010	FY 2010-2011
Phase I	████████████████████				
Phase II		████████████████████			
Phase III			████████████████████		

**Figure 8: Gantt Chart** shows the proposed phased approach to implementing a centralized maintenance and dispatching facility.

**PHASE I: SHORT-TERM COORDINATION**

Phase I is a tactical solution to implementing a coordinated program and will allow RTA and Ride-On flexibility for further coordination of functions in the mid- and long term. It will also address RTA’s immediate concerns regarding their current operations contract RFP and bus yard.

A new model for coordinating maintenance could be implemented within several months of agreement by the parties involved if there is a significant commitment to achieving results and the time is committed to work out the details.

The proposed operation would combine RTA’s and Ride-On’s maintenance functions under one umbrella.

RTA and Ride-On must first separate their maintenance from other operational functions. For RTA, this requires separating the maintenance function from the operation contract when the contract is up for re-bidding. For Ride-On, the shift is more subtle and only requires that Ride-On be open to outsourcing its maintenance function.

RTA will then assume the responsibility of lead agency and issue a Request for Proposal (RFP) for maintenance services. RTA will separate maintenance and operations into two RFPs. The operating contractor is required to use the services of the maintenance vendor chosen by the RTA. The two contracts are initiated simultaneously. If RTA makes the decision to solicit new



**Figure 9: RTA and Ride-On** will initially be the only two operators participating and will participate through an MOU.





operating proposals at the conclusion of the base term of the current contract (June 30, 2006), this would provide the opportunity to implement this model within six months.

Ride-On and RTA will negotiate a *Memorandum of Understanding (MOU)* to oversee the maintenance program and come to agreement on key provisions of how the program would be implemented and be managed. Key provisions include the following items:

1. **Pricing formula** that covers the eventual cost of a vendor contract. The proposed method would be a cost per vehicle plus mileage. The pricing may be influenced by the terms preferred by the outside maintenance vendor. Other options include:
  - Rate based on number of vehicles only;
  - Rate based on mileage only;
  - Actual cost (actual parts cost plus labor);
  - Rate based on vehicle revenue hours;
2. **Quality control** method to evaluate and enforce quality of the maintenance function. The following performance measures are proposed:
  - Mechanical road calls;
  - Repeat repairs;
  - Missed Preventive Maintenance Inspections (PMIs);
  - Ratio of applied to unapplied maintenance labor hours;
  - CHP inspections;
  - Inspection by an independent third party either on a regular or optional basis.

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***RTA WILL BE  
THE LEAD  
AGENCY IN  
SECURING A  
MAINTENANCE  
CONTRACT***

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3. **Priority-setting method** for scheduling work so that all vehicles are available for daily pull-out. The proposed method is two-fold: (1) all PMIs completed on schedule and (2) spare ratios for each sub fleet are maintained. If an outside vendor is secured for maintenance, all RTA and Ride-On vehicles would be given equal priority (other customers lower priority).
4. **Dispute resolution process** for resolving disagreements. A proposed solution would be a panel of technical representatives from the various agencies serving the region. An alternative would be to use a panel of Board Members from the participating organizations. Still another option would be to use an outside arbitrator.
5. **Capital assets and inventory** for determining how inventory would be exchanged between the current organizations and the maintenance vendor or lead agency. It would also need to be determined who would own the inventory and any capital assets once the coordinated maintenance function has been implemented.
6. **Accounting and Purchasing** for acquiring new inventory. Our proposal is that the accounting and purchasing procedures of the lead agency be implemented.
7. **Personnel** as applicable job descriptions and functions may change. The functions of utility people may change or be eliminated and new skills required. A combined operation may also entail reconsideration of benefits, such as health insurance, vacation, etc.

After the evaluation of the maintenance vendor proposal by both RTA's and Ride-On's management, a joint contract including maintenance for both fleets will be issued. As the business base for the vendor expands through the addition of other customers, prices should be adjusted downward and the range of services and hours of operation increased.



**Figure 10: RTA's Current Maintenance Facility** *lease is controlled by the operations contractor.*



***IF A SUITABLE  
FACILITY CAN  
NOT BE SECURED  
IMMEDIATELY,  
THERE ARE  
SEVERAL  
ALTERNATIVES.***

Relocation of the maintenance function to a suitable facility controlled by RTA would take place with the new contract. RTA would lease the facility directly rather than having the facility provided by the operating contractor. The benefits are two-fold:

1. RTA would maintain control of the facility regardless of its decisions relating to either operating contract vendors or maintenance vendors; and
2. A facility that could accommodate both agencies could be secured. If a suitable facility can not be located in the near term, then two alternatives may be pursued.

**Alternative 1:** RTA could assume the lease currently controlled by Southland and maintenance would continue at the current facility.

**Alternative 2:** RTA could assume the lease currently controlled by Southland and maintenance would continue in the current facility for RTA's vehicles and in Ride-On's current facility.

- If Ride-On and RTA agree to prepare and release an RFP for a maintenance vendor, the following provisions should be included:
  1. **MOU:** Incorporate provisions of MOU in vendor contract (*include decision-making, pricing approach, etc.*)
  2. **Term:** Three-year base term with two two-year options is proposed. *Longer terms are possible, but since this will be a new way of doing business for both Ride-On and RTA, we suggest the first term be short for maximum flexibility. Timeframes shorter than three years may have difficulty attracting vendors.*
  3. **Pricing:** A per vehicle/per mile methodology is proposed. *Discussions should be initiated with vendors to determine their acceptance of various pricing options. An option for pricing major repairs at cost to client agency may help contain costs, but will provide less stability if cash flow is an issue.*



4. **Startup plan:** Require a detailed startup plan to meet the July 1, 2006 or other agreed upon start date.
5. **Facility:** An RTA-leased facility is proposed. An option could be included to consider using a vendor-provided facility if one is in the area. Any vendor-proposed facility must include adequate parking.
6. **Employees:** The vendor's proposal should include the number, qualifications, and classification of employees that will be used to maintain the vehicles. A provision for the vendor to consider existing RTA (or Southland) and Ride-On employees for employment with the approval of RTA and Ride-On may be incorporated.
7. **Inventory:** A provision for inventory level and control by vendor should be included. Issues such as who owns existing inventory need to be resolved.

If RTA decides to lease a new facility, we propose the following criteria be used:

- Use general site spec prepared by consulting group as guide to searching for site options;
- Use local commercial realtors with site spec to find locations;
- Supplement realtors with personal site search;
- Incorporate administrative and maintenance space in site search;
- Attempt to find space for the same price as the combined cost of RTA administration offices and the Southland facility (and possibly Ride-On shop space);
- Recommend combination of central location (leased or owned) and satellite locations.



**Figure 11: Parking** is a major consideration in locating a suitable maintenance facility.

## PHASE II: MID-TERM COORDINATION

In Phase II, the proposal is for both Ride-On and RTA administrative and contract personnel to be housed in the same facility. This phase would coincide with expiration of Ride-On's



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**THE EMPHASIS  
OF PHASE II IS  
TO WORK OUT  
THE  
IMPEDIMENTS TO  
COORDINATING  
THE  
DISPATCHING  
FUNCTIONS**

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current lease. The implementation of this phase is dependent on the options selected during Phase I and the projected timeline for Phase III. If RTA retains their current facility, then, at this point a new facility, suitable to house both organizations, as well as maintenance and vehicle parking, should be pursued. If a larger facility suitable for housing both organizations is secured in Phase I, then this phase would only include the actual sharing of space. At this point a lease or lease to buy facility would be suitable. If a lease to buy facility is obtained, consideration should be given to the logistics involved in constructing a new facility on the property or remodeling the existing structure in Phase III.

This Phase would be the first step in centralizing the dispatch function. Coordinating dispatch is considerably more difficult than maintenance, however, could provide *one-stop shopping* for many of Ride-On's and Runabout's clientele.

The dispatch *function* generally includes *window dispatching* where drivers check in and receive any materials that they need to perform their duties. Dispatch also typically includes *radio dispatching* where a dispatcher is in constant radio or other direct communication with the drivers in the field. This is meant to handle emergencies, coordinate services, schedule rides, make vehicle switches, etc. In a paratransit environment, dispatching is typically an expanded function including some or all of the reservation and ride scheduling function.

At the present time, the two participating organizations (RTA and Ride-On) have different dispatching needs and use different approaches to this critical function. RTA performs dispatching through its operating contractor, Southland Transit. The contractor dispatches the ADA paratransit service for the San Luis Obispo area. This entails taking calls up to 24 hours in advance of the service, scheduling no more than 50 percent of rides on a standing basis (feature of ADA regulations), and producing trip manifests that vary each day for each driver. RTA provides *Trapeze*



software to its contractor to perform these reservation and scheduling functions. These activities are in addition to the window and radio requirements mentioned above.

Ride-On has somewhat different circumstances. The majority of its rides are provided for Tri-Counties Regional Center clients. Fully 78% of all non-vanpool trips in September 2005 were for the Regional Center. These trips are scheduled by Tri-Counties Regional Center and are provided to Ride-On virtually in manifest form. Tri-Counties uses *Versatrans* software that is designed primarily for school bus transportation. The Regional Center's trips, similar to school trips, have very little variation from day to day. In addition, the routing requirements of the system are not as complicated as with Runabout's ADA service. For the remainder of the trips provided by Ride-On, the organization uses *Schedule Pro* or manual scheduling. *Schedule Pro* software is similar to *Trapeze*, but not typically as robust. Ride-On is currently working to link its centralized dispatching software with onboard vehicle terminals for real-time scheduling.

A typical benefit of coordinating the dispatch functions would be expanded opportunity for mixing passengers on the participating vehicles to achieve efficiencies. In the case of Ride-On, the Regional Center contract prohibits other passengers from being carried on a vehicle with their riders. This dramatically limits the sharing of rides between the participants. At the present time, Ride-On uses its vehicles to transport other passengers during the periods between Regional Center services.

Given the many differences in dispatching techniques and requirements, it is recommended that coordination of dispatch be addressed as a Phase II activity. This will allow additional time to evaluate the options for service integration and technology coordination. A Short Range Transit Plan (SRTP) has been prepared for Ride-On. This planning process explores opportunities to integrate dispatch along with the larger elements



**Figure 12: Dispatching Technology** can increase productivity, but currently RTA and Ride-On use different technology, which is a barrier to coordination.



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***THE CRITICAL  
COMPONENT OF  
PHASE II IS THAT  
THE TWO  
ORGANIZATIONS  
RESIDE IN CLOSE  
PROXIMITY.***

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of the services themselves between Ride-On and RTA within the five-year timeframe of the plan.

The steps to implement this phase are considerably more complex and would require a concerted effort by both organizations to make it work successfully.

Phase II includes housing both UCP and RTA administrative staff and the dispatching function along with any regular contract personnel in a suitable facility. It is proposed that the two organizations be **separate**, but adjacent. If such a facility cannot be secured, or the two organizations decide to remain in separate locations until Phase II, then two alternatives are possible:

- **Alternative 1:** RTA, as the lead agency, could consider contracting the dispatching function in a manner similar to the maintenance function. A concern exists that the contract would be of sufficient size to attract qualified vendors.
- **Alternative 2:** The two entities could continue operations at different locations and one of the agencies could develop, with the participation of the other agency, in-house capability to handle all dispatching requirements.

In Phase II, RTA and Ride-On work on identifying and removing any institutional barriers that would prevent coordinating different clientele. It may be possible to coordinate dispatching without mixing clientele, but some efficiency would not be achieved in this scenario.

Technical barriers, such as software, radio communication, etc., will also be identified and addressed.

ADA and other relevant legislative mandates are established in the dispatching procedures. Agreement will need to be established regarding dispatching policies and procedures. Items include:

- Definition of a denial versus reschedule;
- Rescheduling parameters;



- Optimal mode choice to meet a client's needs;
- Handling of complaints;
- Maintenance of records;
- Communication with drivers;
- Communication with maintenance;
- Scheduling vehicles and drivers;
- Recording of data elements;
- Qualification for specific services.

### **PHASE III: LONG-TERM COORDINATION**

The Phase III implementation plan is a longer-range plan in which both a permanent facility and a long-term operating commitment are obtained. This phase, which could move forward concurrent with the implementation of Phases I and II, would involve the pursuit of funding necessary to construct a permanent facility for operation of a joint maintenance and dispatch program.

## **SITE SPECIFICATION**

Through the efforts of the Working Group and with additional input from both RTA and Ride-On, a preliminary specification of the facility has been prepared. The specification is for two alternative sizes depending upon which organizations participate in the project. At the small end of the range, the facility would be large enough to house the RTA and its contractor for both administrative and maintenance purposes. At the large end, the facility would accommodate RTA, Ride-On and possibly another of the area transit operators. The table below displays the two size alternatives with the details of space allocated to specific functions. This is subject to refinement during the actual design process but serves to guide the funding application.



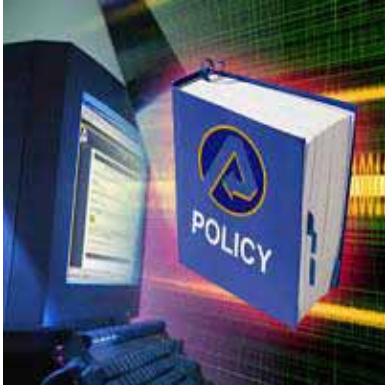
	MINIMUM CRITERIA			MAXIMUM CRITERIA		
	SPECS	#	SPACE REQUIRED (SQ FT)	SPECS	#	SPACE REQUIRED (SQ FT)
<b>BUILDING REQUIREMENTS</b>						
OFFICE SPACE	145 to 240 sq. ft.	16	2,475	145 to 240 sq. ft.	30	4,500
DISPATCHING	400 sq. ft.	1	400	600 sq. ft.	1	600
MONEY-COUNTING	400 sq. ft.	1	400	500 sq. ft.	1	500
CONFERENCE/STORAGE/MISC.			1,175			2,200
<b>TOTAL ADMINISTRATIVE SPACE</b>			<b>4,450</b>			<b>7,800</b>
SERVICE BAYS	55 ft. by 20 ft.	6	6,600		17	18,700
PARTS STORAGE			600		1	1,200
MATERIALS STORAGE, EQUIPMENT			800		1	1,500
<b>TOTAL BUILDING REQUIREMENTS</b>			<b>12,450</b>			<b>29,200</b>
<b>PARKING AREA/GROUNDS</b>						
40 FT. COACHES	45 ft. by 15 ft.	10	6,750	50 ft. by 20 ft.	15	15,000
CUTAWAYS	35 ft. by 15 ft.	30	15,750	40 ft. by 20 ft.	40	32,200
VANS	20 ft. by 10 ft.	23		25 ft. by 12 ft.		
SHUTTLE VANS	20 Ft by 10 ft	19	4,560	25 ft. by 12 ft	25	7,500
EMPLOYEE PARKING	20 ft. by 10 ft	38	9,120	25 ft. by 12 ft	50	15,000
FUELING	120 ft. by 50 ft.		6,000	150 ft. by 50 ft.		7,500
DRIVEWAYS, AISLES	25% of area		18460	50% of area		55,100
DRIVE-THROUGH BUS WASH	50 ft. by 15 ft.		750	50 ft. by 15 ft.		7,500
<b>TOTAL PARKING AREA</b>			<b>61,390</b>			<b>139,800</b>
<b>TOTAL AREA REQUIREMENT</b>			<b>73,840</b>			<b>169,000</b>
			<b>1.7 Acres</b>			<b>4.0 Acres</b>

**Figure 13: Site Specification Table** outlines the anticipated minimum and maximum site requirements. This is an estimate only. The actual requirements will be depend to a large degree on the specific site selected.

1



## POLICIES AND PROCEDURES



**Figure 14: A Policy and Procedure Manual** will help eliminate ambiguity and uncertainty regarding how the maintenance function will operate.

This section of the Operating Plan presents the draft contents of a policies and procedures manual for use by the parties in any agreement to coordinate maintenance. A ***Policies and Procedures Template*** manual is provided in Appendix A for adaptation by the RTA and Ride-On.

The ***Template*** is intended to serve as a basis for defining the various functions that will be performed in the coordinated shop and the level of care that the buses of each participant will receive. It goes on to specify which maintenance activities will be performed by the personnel of the shop and those that will be sublet to outside vendors. In certain instances, using outside vendors is the most appropriate approach to performing highly technical or time-consuming tasks. In addition to freeing shop employees to perform more routine activities, use of specialized outside vendors typically offers warranties on the work that do not exist when work is performed in house.

The format of the manual outlined below creates a flexible approach to establishing maintenance standards. In the collaborative effort, RTA and Ride-On have a process for adopting maintenance protocols. This is formalized by the designated part(y)(ies) signing the procedure indicating its adoption.

The procedure manual offers great detail on each criterion. For example, on Personnel, the level of specificity regarding skill levels would include such criteria as multiple ASE Certifications for different levels of Mechanic. This would add a level of formality in shop operations that is not typically present in today's environment.

The following areas are covered:

- **Personnel**
  - General*
  - Staffing*



*Skill Levels*

*Recruiting Maintenance Staff*

*Recruiting Maintenance Mgrs*

*Work Rules*

*Dress Code*

*Training*

*Employer Conduct*

▪ **Job Descriptions**

*Maintenance Superintendent*

*Lead Technician*

*A Technician*

*B Technician*

*C Technician*

*Service Worker*

*Parts Clerk*

▪ **Maintenance Procedures**

*Service Intervals*

*Daily Bus Reports (DBR)*

*Repair Orders (RO)*

▪ **Safety**

*Maintenance Safety*

*General Work Areas*

*Fire Prevention*

*Fueling*

*Mounting and Inflating Tires*

*Split Rim and/or Retaining Rings*

*Machinery and Equipment*

*Propane Handling Procedures*

*Jacks, Use of Jack Stands*

*Compressed Air*

*Hand Tools*

*Compressed Gas Cylinders*

*Fire Prevention While Welding*

*Ladders*



*Material Handling*

*Medical Services and First Aid*

*Operating and Servicing Vehicles*

*Personal Protective Equipment*

*Hazardous Materials*

*Compliance with Regulations*

▪ **Accounting**

*Maintenance Accounting*

*Chart of Accounts*

*Sub-Accounts*

▪ **Purchasing**

*Purchasing*

*Vendors*

*Solicitation of Bids*

*Purchase Order Log System*

▪ **Warranty Repairs**

▪ **Complaint**

*Condition*

*Correction*

▪ **Assets**

*Capital Assets*

*Definition*

*Non-Capital Assets*

*Physical Inventory*

▪ **Forms**

*Maintenance Department Forms*

*Forms Utilization*

## FUNCTIONS AND SERVICES

At the heart of the coordinated maintenance facility are the functions and services that will be performed onsite. The design and equipment for the site, as well as the staffing level and expertise by the maintenance vendor, are dependent on the maintenance functions to be performed.



**Figure 15: Maintenance functions**  
*to be performed determine the personnel,  
facility, and equipment requirements.*

The most common tasks that are considered *typical* and are regularly performed by transit technicians:

- *Safety inspections* scheduled by time, mileage, manufacturers' and regulatory requirements (typically 3,000 miles or 45 days) and additional inspections at 6,000 miles or as specified by the manufacturer;
- Minor repairs and adjustments identified during the inspection process;
- Lubrication, oil changes and regularly scheduled miscellaneous filter replacements including predictive maintenance and chassis and drive train adjustments as required;
- Repair of engine oil leaks, minor adjustments and replacement of bolt-on components;
- Brake inspection including repair and replacement of related hardware and pneumatic components including machine-turning of drums and fitting of replacement shoes, if required;
- Transmission service, filter replacement, and minor adjustments and the replacement of electric sensors and control switches;
- Tire inflation, replacement and repositioning to obtain matched sets;
- Scheduled air-conditioning maintenance service and filter replacements;
- Scheduled cooling system service, PH readings, and additive and filter replacements;
- Replacement of hydraulic fan motors and piping;
- Bus washing, interior cleaning and engine and chassis steam-cleaning.

Additional tasks performed *intermittently* often require transit-specific equipment. It is expected the coordinated maintenance program would include these tasks:

- Replacement of new or repaired engines and transmissions;



- Air-conditioning adjustment and repair, such as electronic control systems adjustments, system evacuation and recharging and the repair or replacement of worn or broken components;
- Wheelchair-lift service, including the repair of mechanical and hydraulic systems and the adjustment of mechanical and electronic controls and limit switches;
- Electronic-controlled destination sign repair and adjustment;
- Electronic fare box repair;
- Radio communication equipment and Automatic Vehicle Location (AVL) equipment repair and adjustment.

The following tasks often require extensive training or expertise and are usually best performed by private-sector vendors, who are able to have technicians dedicated to a large degree to these more obscure undertakings. In negotiating with the maintenance contractor, how these elements will be handled will need to be determined:

- Major engine, transmission and differential repairs, overhauls and replacements;
- Overhaul of electrical and bolt-on engine components such as starters, alternators, turbochargers, power steering pumps and gears, fuel injectors and injection pumps;
- Front axle alignment and refurbishment;
- Chassis and suspension bushing replacement;
- Tire repair, replacement and mounting on rims (usually a contract service);
- Accident and cosmetic repair and painting;
- Radiator, heater core and charge air cooler repairs;
- Machine shop work related to general repair functions;
- Exhaust repair and replacement including specialized welding.