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EXECUTIVE SUMMARY

This section presents an overview of those issues and concerns identified through the audit process. It also outlines specific strategies and recommended solutions to address the relevant issues.

This section summarizes key findings and recommendations developed during the Transportation Development Act (TDA) Performance Audit of Unitrans. The Audit covers a three-year period for the fiscal years ending:

- June 30, 2013 (FY 12/13);
- June 30, 2014 (FY 13/14); and
- June 30, 2015 (FY 14/15).

The Performance Audit was conducted in accordance with the processes established by the California Department of Transportation, as outlined in the Performance Audit GUIDEBOOK FOR TRANSIT OPERATORS AND REGIONAL TRANSPORTATION PLANNING ENTITIES, as well as GOVERNMENT AUDIT STANDARDS, published by the U.S. Comptroller General. The Audit covers the prescribed three (3) years (Triennial Performance Audit).

The Performance Audit has six (6) elements:

1. Introduction;
2. Compliance requirements;
3. Follow-up of prior Performance Audit report recommendations;
4. Verification and analysis of performance indicators;
5. Identification and review of the transit operator’s functions and activities; and
6. Findings and recommendations.

Overview

Unitrans operates fixed route service throughout Davis on 17 separate lettered lines (A, B, C, etc.), plus two limited service lines (S and T) that provide bell-time service to secondary schools in Davis. The majority of service is focused on connecting various student-cluster neighborhoods with the University of California Davis (UCD) campus, but service is also provided throughout the city. Monday through Thursday evening service is an extension of weekdays, with modest deviations to better serve night activity centers. Service on Friday evenings is a shorter version of the weekday platform (two [2] to three [3] hours’ earlier system shutdown than Monday through Thursday) and Weekend Services are offered on seven (7) lines, running from 8:20 a.m. to 7:00 p.m. Evening and weekend service alignments are similar to weekdays, with modest deviations to better serve activity centers.
AUDIT PERIOD ACCOMPLISHMENTS AND CHANGES

Operations

1. In August 2012 and 2013, numerous service changes were implemented.

2. Service changes were implemented in September 2014, timed with the start of the UC Davis fall quarter and the opening of the new Memorial Union bus terminal.

3. Unitrans worked with Yolo County Transportation District to pilot the concept of free fares in the spring of 2014.

Administrative

1. Title VI compliance program was approved by the City on July 2, 2014.

2. Unitrans management instituted quarterly reports with the City of Davis.

3. The implementation of the new UNI internal payroll system module.

4. Unitrans implemented a Twitter account to communicate with riders.

5. During the Audit period, Unitrans began work on a Procedure Manual.

Capital and Fleet

1. In Fall of 2013, two (2) significant projects in the Hutchison corridor on the UCD campus were completed.

2. In September 2014, the renovation, expansion, and modernization of the Memorial Union Terminal was completed.


4. Negotiated with the California Air Resources Board (CARB) to formalize ability to purchase and deploy diesel-powered double-decker buses in lieu of CNG double-decker buses, which are not commercially available.

5. Completed the Russell Blvd. ITS Project, working collaboratively with the City of Davis.

Compliance

Unitrans administers TDA laws and regulations in an efficient and effective manner and is in full compliance with TDA rules and regulations.
Prior Audit Recommendations

The prior 2013 audit had five (5) recommendations, one (1) has not been implemented, one (1) is in progress, two (2) have been implemented and one (1) is no longer relevant.

1. Complete the replacement of the Garrod M&O Facility's CNG fueling station: **In Progress**: the CNG Fueling Station is under design and a Request for Proposals (RFP) for equipment and installation is anticipated to be released in summer of 2016.

2. Evaluate Options for Expansion of Garrod Road M&O Facility or a Satellite Bus Parking Facility: **No longer relevant**: with the CARB approval of diesel powered double decker buses, the current facility will meet the yard needs in the foreseeable future.


4. Negotiate a Waiver from CARB and Purchase of Diesel Double-Decker Buses: **Partially Implemented**: The CARB waiver was obtained and Unitrans is in the process of purchasing more double-decker buses.

5. Create a Strategic Marketing Plan: **Not Implemented**: Unitrans staff has been reluctant to expend significant funding on a formal marketing plan.

Performance Measures and Indicators

Key performance measures were verified in accordance to TDA definitions. All measures (operating cost, fare revenue, vehicle service hours, vehicle service miles, passengers, and full time equivalencies) are correctly calculated, tracked, and reported.

Due to its unique operating environment and solid management, Unitrans features exceptional performance across most TDA compliance measures:

- **Operating Cost per Vehicle Service Hour** measures cost efficiency. Unitrans continues to display efficient service delivery and remains one of the lowest cost-per-hour systems in the State, with an average operating cost per vehicle service of $56.88 per VSH over the Audit period.

- **Operating Cost per Passenger** measures cost effectiveness. Unitrans continues to be one of the most cost-efficient transit systems in California with an average operating cost per passenger of $1.19 during the Audit period.

- **Passengers per Vehicle Service Hour and Vehicle Service Mile** measure service effectiveness and productivity. Even after expanding services during the audit...
period, Unitrans features a robust 47.64 passengers per VSH and 4.69 passengers per VSM average during the audit period. Unitrans remains extremely productive.

- **Vehicle Service Hours per Full-Time Equivalency** shows labor productivity. During this audit period, the dramatic gains in productivity enjoyed in the prior audit period declined slightly from a historic high of 810 in FY 11/12 to 792 VSH per FTE in FY 14/15.

- **Farebox Recovery Ratio** measures service efficiency. Unitrans continues to enjoy one of the highest farebox recovery ratios in California and the nation, with an average ratio of 58.5% during the Audit period.

### Functional Review

#### General Management and Organization

Unitrans is a unit of the Associated Students of UC Davis (ASUCD) and has been a primarily student-operated bus system beginning in 1968. The ASUCD Senate oversees Unitrans and adopts an annual budget for its operation; however, the Davis City Council, with support from Unitrans Advisory Committee (UAC), oversees Unitrans in its adoption of an annual operating agreement and the submittal and approval of FTA grants for capital and operating funds.

The Unitrans staffing includes a total of 15 career permanent positions and over 200 part-time employees, who are UCD students and work around their class schedules.

Unitrans management prides itself on proactive identification of threats, opportunities, and emerging issues.

#### Administration

Unitrans benefits daily from the payroll, risk management, procurement/capital projects, and accounts payable/receivable support that is provided by the University/ASUCD.

Budgets are prepared and established annually based upon projected funding available and the perceived needs of the University and community.

#### Service Planning

Unitrans has an effective process for operations planning, monitoring, and working diligently to identify potential service changes and work with the impacted stakeholders to evaluate options and implement the optimal modifications.

An official SRTP was completed in collaboration with SACOG in 2014, covering FY 14/15 through FY 20/21. The SRTP analyzed changing student and community demographics, productivity by route, an evaluation of staffing and marketing, and an updated capital plan.

While foregoing detailed service plans beyond FY /14/15 per se, the SRTP produced two (2) alternative projections for expanded service hours of 3.0% and 3.5% per fiscal year
over the course of the plan, along with a “status quo” projection based on annual service hours provided in FY 13/14. This approach allows Unitrans’ planning staff the flexibility to address emerging needs on an annual basis. Most of the proposed FY 14/15 service changes contained in the SRTP have been implemented during the audit period.

**Scheduling, Dispatching, and Operations**

Unitrans conducts its dispatching function at the operations and maintenance facility on Garrod Drive, southwest of the main area of the UC Davis campus.

Unitrans’ dispatch currently relies upon NextBus technology for monitoring route performance, in addition to radio communication with drivers.

Unitrans does its own blocking and runcutting, adapting industry standard best practices on vehicle blocking to the unique operating environment (in particular the prevalence of short operator shifts), with drivers often remotely signing on at one of the on-campus transfer centers.

Unique to Unitrans (at least in California) are conductors that accompany the bus operators on the five (5) double-decker buses to collect fares and manage the coaches.

**Personnel Management and Training**

Unitrans is able to access a constant pool of potential student drivers, and frequently conducts new training classes for new recruits. Nearly all recruits lack transit experience, so the training program is critical to Unitrans’ success. Training is a critical function at all transit agencies, but none more so than at Unitrans, due to the unique nature of its driver pool. Training classes are almost constantly being provided, and groups of newly trained drivers “graduate” and are placed into revenue service at several times throughout the year. Because of the criticality of the training function, the audit once again makes a recommendation on how Unitrans may improve its approach to training in the future.

Unitrans has developed a thorough and detailed employee manual that governs many aspects of the employer-employee relationship and conveys Unitrans’ policies, including discipline and drug and alcohol policies.

**Marketing and Public Relations**

A student marketing manager (0.2 FTE) administers the program; however, only 0.6 FTEs total, including the student marketing manager, are allocated to marketing. While the collateral and marketing pieces are creative, some inconsistency in style continues to be noted, probably due to the high turnover rate in the position. Not only does the marketing staff change annually, but so does the student marketing manager. This challenges marketing continuity and institutional memory can be lost as the students cycle in and out.
Charters
Unitrans’ Charter Policy follows FTA direction on noticing of the private sector prior to engaging in charter activities and provides a mechanism for private sector transportation companies to file complaints.

Maintenance
Unitrans Maintenance Division also features a strong presence of student employees.
The Maintenance Department employs eight (8.75) career positions (including four (4) mechanics) within the division, supported by 6.2 FTE part-time student employees, and a separate "support division" of 4.2 FTE that features all students and handles the bus washing and shelter cleaning duties.

What were four (4) threats to the Garrod M&O facility have evolved down to three (3) during this audit period. The ability to purchase more diesel double-decker buses enables Unitrans to keep meeting increased ridership needs (capacity) without enlarging its fleet.

Three of the remaining threats include—
1. The yard asphalt is failing in places and will need to be replaced in the near future.
2. The aging CNG fueling facility has become difficult to maintain because of the aging equipment.
3. The aging underground diesel fuel storage tank poses a possible leakage threat.

Recommendations

RECOMMENDATION 1: CNG FUELING STATION

Upgrade the entire fueling facility at Garrod Road to include a new CNG fueling station.

Condition: Current CNG Fueling Station is beyond useful life and no nearby alternative facility is available.

Proposed Solution: Prepare bid specification for procurement of a new CNG Fueling Station with the improvements to the paving schedule to begin in the fall.

RECOMMENDATION 2: M&O FACILITY

Upgrade Unitrans’ Garrod Road M&O Facility.

Condition: Garrod Road M&O Facility paving is beginning to fail, and Unitrans is serious about adding electric buses in the near future.
**Proposed Solution:** Upgrade Unitrans’ Garrod Road M&O Facility by repaving the bus yard, replacing the diesel-fuel storage tanks with new, above-ground tanks, and potentially installing infrastructure for future electric bus charging equipment.

**RECOMMENDATION 3: TRAINING AND SAFETY**

Split the Safety and Training Supervisor position into two (2) career positions: One (1) dedicated to training and one (1) to safety.

**Condition:** Unitrans’ unique student driver model has its main downside as the constant need for training and safety. With new FTA emphasis on Safety going forward, it will need more than one FTE so it can handle both critical tasks (Safety and Training).

**Proposed Solution:** Add a second Career Professional position dedicated to Training. This would likely split out the duties currently performed by the Manager of Safety and Training. This would allow the new position to concentrate on training and the existing position to focus entirely on safety. This may mitigate the need for Unitrans to continue the use of part-time DMV-approved ETP BTW Trainers.

**RECOMMENDATION 4: DOUBLE DECKER BUSES**

Work with funding partners such as SACOG to purchase new double decker buses through the options with the Alameda-Contra Costa Transit District purchase contract.

**Condition:** The double-decker buses are not only an iconic branding tool for Unitrans, but a practical solution to heavy passenger loads. In addition, they take up less room in the Garrod Road yard, allowing Unitrans to defer a new satellite bus parking yard or expansion of Garrod Road via property acquisition.

**Proposed Solution:** Add more double-decker buses. Unitrans has been included on the recent purchase contract of AC Transit for diesel double-deckers, and assigned three (3) options. Unitrans should work with funding partners such as SACOG to utilize these options to obtain new double decker buses as soon as possible.

**RECOMMENDATION 5: MARKETING**

Augment the MARKETING MANUAL with marketing guidelines to ensure integrity of the Unitrans brand and consider using briefs for marketing activities to help measure effectiveness.

**Condition:** Marketing is creative but lacks continuity and often omits key branding facets, such as double-decker logos, colors, etc. There seems to lack focus on various market segments in the community. Website seems a bit stale. Lean student marketing staff could use more guidance.

**Proposed Solutions:** Develop marketing guidelines and augment the Marketing Manual with Marketing Briefs that will be created for each campaign and outreach event to help
measure effectiveness. Update website and other marketing vehicles to reflect Unitrans branding. Expand outreach marketing to non-student market segments to enhance ridership on specific routes.

**RECOMMENDATION 6: ITS/TSP CORRIDORS**

Expand the successful Russell Blvd ITS/TSP project to additional corridors.

**Condition:** On-time performance continues to be one of the main drivers of passenger complaints. Transit Signal Priority (TSP) can provide Unitrans with OTP relief at very low cost. The first Corridor is completed.

**Proposed Solution:** Continue to work collaboratively with the City of Davis to expand the successful Russell Blvd ITS/TSP project to additional corridors that will improve operations for Unitrans, such as Richards/Cowell.
### Table E-1: Summary of Audit Recommendations

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<th>Timeframe</th>
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<td>1 Upgrade the Unitrans’ fueling facility at Garrod Road to include a new CNG fueling station.</td>
<td>Transit General Manager with Maintenance Manager</td>
<td>FY 16/17, 17/18</td>
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<tr>
<td>2 Upgrade Unitrans’ Garrod Road M&amp;O Facility.</td>
<td>Transit General Manager with Maintenance Manager and Transit Systems Manager</td>
<td>FY 17/18, 18/19</td>
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<tr>
<td>3 Split the Safety and Training Supervisor position into two (2) career positions: One dedicated to training and one to safety.</td>
<td>Assistant General Manager, Operations</td>
<td>FY 16/17</td>
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<tr>
<td>4 Work with funding partners such as SACOG to purchase new double decker buses through the options with the Alameda-Contra Costa Transit District purchase contract.</td>
<td>Transit General Manager</td>
<td>FY 17/18, 18/19</td>
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<tr>
<td>5 Augment the Marketing Manual with marketing guidelines to ensure integrity of the Unitrans brand and consider using briefs for marketing activities to help measure effectiveness.</td>
<td>Assistant General Manager, Administration</td>
<td>FY 16/17</td>
</tr>
<tr>
<td>6 Expand the successful Russell Blvd ITS/TSP project to additional corridors.</td>
<td>Transit General Manager with Maintenance Manager</td>
<td>FY 16/17, 17/18</td>
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1.0 INTRODUCTION

The Transportation Development Act (TDA) Performance Audit for Unitrans covers a three (3)-year period ending June 30, 2015. The California Public Utilities Code requires each transportation planning agency to conduct a TDA Performance Audit to be eligible for TDA funding. The proposed Audit is designed to be an independent and objective evaluation of Unitrans as a transit operator. The Audit has four (4) objectives:

- Assess compliance with TDA regulations;
- Review improvements that have been implemented and progress toward goals;
- Evaluate the efficiency and effectiveness of Unitrans; and
- Provide sound, constructive recommendations for improving the efficiency and functionality of the operations.

1.1 Audit Scope & Methodology

The format and requirements for TDA Performance Audits are dictated by the following regulations and guidelines:

- California Public Utilities Code (PUC), Section 99246, subsection (b) of which states that the Audit shall evaluate the efficiency, effectiveness, and economy of the operation of the entity being audited, and subsection (d) stating the Audit shall include consideration of the needs and types of passengers served, employment of part-time drivers, and contracting with common carriers of persons operating under franchise or license to provide services during peak hours as well as include verification of five performance indicators:
  1. Operating Cost per Passenger,
  2. Operating Cost per Vehicle Service Hour,
  3. Passenger per Vehicle Service Hour,
  4. Passengers per Vehicle Service Mile, and
  5. Vehicle Service Hours per Employee.

- PERFORMANCE AUDIT GUIDEBOOK FOR TRANSIT OPERATORS AND REGIONAL TRANSPORTATION PLANNING ENTITIES (3rd Edition, September 2008), issued by the California Department of Transportation (Caltrans); and

- STANDARDS FOR AUDIT OF GOVERNMENTAL ORGANIZATIONS, PROGRAMS, ACTIVITIES, AND FUNCTIONS (2007 Revision), published by the United States General Accounting Office and the U.S. Comptroller General, which provides additional directives.
The Triennial Performance Audit (TPA) is a high-level review evaluating the efficiency, economy, and effectiveness of the transit operations. While the primary purpose of the Audit is to ensure compliance with TDA requirements, it should also provide Unitrans and the operations contractor with practical and useful recommendations to improve the efficiency and effectiveness of its transit operations. The Audit of Unitrans operations comprises the evaluation of four (4) elements:

1. Compliance with TDA requirements and regulations;
2. Implementation of recommendations contained in prior Performance Audits;
3. Methodology and analysis for calculating performance indicators and significant performance measures; and
4. Major functions performed by Unitrans to support its public transportation operations, including—
   - General management and organization,
   - Service planning,
   - Scheduling, dispatching, and operations,
   - Personnel management and training,
   - Administration,
   - Marketing and public information, and
   - Maintenance.

The Audit presents conclusions and recommendations to address opportunities for improvement based upon analysis of the previous four elements.

The methodology for this Audit included interviews with key personnel from Unitrans and the operations contractor, site visits, verification of data sources, examinations of financial and statistical reports, and reviews of relevant planning documents and reports.

The Audit Report comprises four (4) sections:

1. **Executive Summary**
   
   *Brief summary of key findings and recommendations developed during the Performance Audit process.*

2. **Introduction**
   
   *Methodology of the Audit and pertinent background information.*

3. **Audit Results**
1.2 Description of Unitrans

When it was founded in 1968, the purpose of Unitrans was as a University Transport System for the University of California Davis (UCD). Originally it operated solely with two (2) vintage London double-decker buses. Four (4) years later, Unitrans was opened to the general public. Since 1972, Unitrans is the fixed route public transit provider for the City of Davis and UC Davis. Unitrans transports 22,000 passengers on a typical “regular” weekday. This figure swells to over 27,000 daily riders on a rainy “regular service” weekday.

Figure 1-1: Modern and Vintage Double Decker Buses

Unitrans is unique in that drivers and most employees are UCD students working part-time in all areas of operation including maintenance, administration, and support functions,
under the supervision of 15 career staff. The vast majority of employees are full-time UC Davis undergraduate students that work part-time. During the FY 14/15 academic year, administrative oversight and day-to-day management of the operation was provided by 15 career staff, including a General Manager, two (2) Assistant General Managers and a Maintenance Manager. All of the bus drivers, much of the support staff, and even many managerial positions are students who work relatively short shifts around their classes.

Schedules on Unitrans are developed annually during the spring and implemented in the summer (August). They are designed to reflect the University of California Davis class schedule and the Davis Unified School District calendar. Reduced service is offered during finals weeks, as well as summer and quarter breaks. Unitrans provides seven (7)-day-per-week local fixed route service featuring 19 routes employing a fleet of 48 active buses, including five (5) double-deckers. On a typical day, 36 buses are scheduled at peak demand periods; additional tripper buses are assigned as needed.

Unitrans operates fixed route service throughout Davis on 17 separate lettered lines (A, B, C, etc.), plus two (2) limited service lines (S and T) that provide bell-time service to secondary schools in Davis. The majority of service is focused on connecting various student-cluster neighborhoods with the UCD campus, but service is also provided throughout the city. Monday through Thursday evening is similar to weekdays, with modest deviations to better serve night activity centers. Service on Friday evenings is a shorter version of the weekday platform (two to three hours’ earlier system shutdown than Monday through Thursday) and weekend services are offered on seven (7) lines, running from 8:20 a.m. to 7:00 p.m.

There are two(2) main “terminals” on the UCD campus: Memorial Union Terminal (MU), and Silo Terminal (Silo). The MU Terminal is a well-defined transit center, including bus layover pads (both for Unitrans and other providers), shelters, benches, and other passenger amenities. Unitrans has recently completed a major upgrade of the MU Terminal, improving capacity and safety at MU. This MU reconfiguration project is described in more detail in the Audit.

The Silo Terminal is located along the Hutchison Corridor that bisects the UCD campus. The Silo Terminal underwent a significant investment and makeover in 2008, expanding its capacity and increasing passenger amenities (shelters, information). Silo hosts regional transit providers (Yolobus and Solano Express/Fairfield and Suisun Transit), but to a far lesser extent than the Memorial Union Terminal.

All routes (except the S and T secondary school commute routes) connect at one (1) of the two (2) terminals. In addition, other regional transit providers (Yolobus and Solano Express operated by Fairfield and Suisun Transit) connect at the Memorial Union (MU) Terminal. The naming convention for all Unitrans routes is the letter of the line and then the main destinations covered (e.g., P-Davis Perimeter Counter Clockwise, or D-Lake Blvd/Arlington).
As shown on the system map, all lines in the system serve the community from only one (1) terminal. The P and Q lines are bi-directional loop routes traveling in opposing directions and serve a number of destinations throughout the city. The S and T lines provide limited service (1-2 daily trips, 180 days/year) and focus on non-university markets (including Davis High School, and Holmes and Harper Junior High Schools).

Unitrans provides varying schedule types depending on the University’s academic calendar. The University provides instruction during three (3) separate quarters (winter, spring, and fall), as well as two (2) sessions during the summer. As described in more detail later (Audit Accomplishments), Unitrans has added hours and made subtle changes in schedules to minimize the confusing elements of the academic schedule oriented changes. These changes occur multiple times each year, and can be challenging, especially to non-student riders.

Unitrans offers the following different "platforms" or service types depending on the day:

- **Regular Service** is provided while UCD classes are in session during the winter, spring, and fall quarters. This platform includes robust
evening service until 10:30 p.m. Monday through Thursday. Less night service is provided on Fridays during the regular schedule, with the service shutting down at 8:10 p.m. on Fridays. This Friday evening service was extended one (1) hour during FY 13/14.

- **Finals Service** is provided during finals week for each quarter (some time in December, March, and June). Unlike the regular service schedule, night service is provided throughout the finals service schedule (including Friday and Saturday nights, and extended an extra hour, past 11:00 p.m. on some routes).

- **Break/Summer Service** is provided during the summer, spring break, holidays, and other times when UCD is not in regular session. Break/Summer Service has evolved to closely mimic Regular Service by providing extended night service until past 8:00 p.m. on almost all lines, and past 10:00 p.m. on a few lines (Monday through Thursday). Night service on Break/Summer Service ends by 9:00 p.m. on Friday through Sunday nights.

- **Weekend Service** runs on Saturdays and Sundays during the Regular Service and Break/Summer Service portions of the academic calendar. Weekend service provides service on Routes P/Q out of the MU Terminal, and on Routes D, V, J, W, and O from Silo. Weekend service is also the chosen platform for serving certain Holidays, such as Veterans Day, Day After Thanksgiving, days between Christmas, and New Year’s. Weekend service does not run during the day on Saturdays of finals service or on Picnic Day.

- **Amtrak Shuttle Service** is provided during Sunday evenings, and Mondays of a three (3) day holiday weekend. The shuttle leaves the Amtrak Station after train arrivals and will take you to any destination within the City at regular fixed route fares.

Unitrans provides an extremely popular family of services, carrying 3,972,587 annual passengers in FY 14/15. This includes more than 22,000 daily riders on a “Regular Service” weekday, swelling to over 27,000 per day during inclement weather.
Figure 1-4: Unitrans System Map
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1.3 Audit Period Accomplishments & Changes

During the Audit period, major accomplishments included:

1.3.1 OPERATIONS

1. In August 2012, numerous service changes were implemented which revolved around the P/Q city perimeter routes and affected several other routes.

2. In August 2013, service changes included—
   - The F-line was extended on Anderson, providing service to the northern part of the City, including the Twin Pines Housing Cooperative.
   - Day service was extended to 8:10 p.m. providing for later service throughout the summer and on Fridays, when night service does not run.
   - Weekend service was added to the D line and to the inner portion of the L line.
   - A new campus perimeter shuttle (“H” line) was introduced, providing weekday service between downtown Davis and the Mondavi Center when UCD classes are in session.
   - The P/Q community perimeter lines were improved to 30-minute frequency during summer and break periods. With that change, along with minor changes to weekend and finals service times, the P/Q schedules were made consistent across all types of days throughout the year, making them much easier for the community to use.
   - The frequency of the V-line to West Village was improved to 15-minutes, and with the build-out of the high density in West Village, its ridership increased to become Unitrans 4th highest line.

3. Service changes were implemented in September 2014, timed with the start of the UC Davis fall quarter and the opening of the new Memorial Union bus terminal:
   - The H-line campus perimeter shuttle (“H” line) was extended to the Vet Med area and to West Village to try to attract more riders.
   - The V-line to West Village was added on weekends, with changes made to the O-line to serve a portion of the L-ltd weekend service that was eliminated because of low ridership.
   - The A-ltd line between Cantrill and UC Davis via Amtrak was replaced with a new Z-line to and from the MU Terminal.
   - The S and T lines were revised to follow a more direct routing along Montgomery rather than serving Almond Lane which had very low ridership.
4. Unitrans worked with Yolo County Transportation District (YCTD) to pilot the concept of free fares in the spring of 2014. As part of the re-construction of Highway 50 in Sacramento in April-May, YCTD received Caltrans funding to implement transit mitigation measures. One element of the program was free fares on Unitrans, funded jointly by the Caltrans funds and Unitrans. The results were positive with increased ridership and improved on-time performance.

1.3.2 ADMINISTRATIVE

5. Title VI compliance program, including an updated Language Assistance Plan, was approved by the City on July 2, 2014.

6. Unitrans management instituted quarterly reports with the City of Davis.

7. The implementation of the new UNI internal payroll system module provided more flexibility in permitting students to select shifts online, make adjustments in shifts, and better manage and report conformance of driver hours.

8. Unitrans implemented a Twitter account to communicate with riders.

9. During the Audit period, Unitrans began work on a Procedure Manual. To date, an Employee Manual, Drug and Alcohol Policy and several procedural sections have been developed for the following positions:

   - Operations Employee (Drivers);
   - Administrative Office Clerk;
   - Office Clerk; and
   - Marketing.

1.3.3 CAPITAL AND FLEET

10. In Fall of 2013, two (2) significant projects in the Hutchison corridor on the UCD campus, which improved bus and bicycle safety, were completed:

   - New access gate near Bioletti Drive and the street; and
   - Landscape improvements on Hutchison east of California Drive.

11. In September 2014, the renovation, expansion, and modernization of the Memorial Union Terminal, Unitrans’ regional transit transfer center on the north side of campus, was completed. Safety and circulation were improved, as well as security upgrades (surveillance cameras) and the addition of more bus bays and real time arrival information.

12. In March 2014, Unitrans took delivery on three (3) new Flyer buses, which allowed retirement of older 1996 CNG buses.
13. Negotiated with the California Air Resources Board (CARB) to formalize ability to purchase and deploy diesel-powered double-decker buses in lieu of CNG double-decker buses, which are not commercially available.

14. Completed the Russell Blvd. ITS Project, working collaboratively with the City of Davis. The Project deployed transit signal priority (TSP) at several intersections along Russell (between Arthur and E) Blvd while upgrading pedestrian and bicycle accommodations and signal controller equipment. All Unitrans buses were equipped with infrared TSP emitters to communicate with the new intersection technology.
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## 2.0 COMPLIANCE REQUIREMENTS

The compliance section examines Unitrans' compliance with the Transportation Development Act (TDA) and relevant sections of the California Code of Regulations (CCR). Various aspects of the transit operator’s compliance are determined through interviews with Unitrans staff and the review and inspection of relevant documentation, such as State Controller’s reports, fiscal audits, California Highway Patrol Inspections, etc., for the three (3) years covered by this TPA.

Unitrans administers TDA laws and regulations in an efficient and effective manner and is in full compliance with TDA rules and regulations.

### Table 2-1: Unitrans Compliance with TDA Requirements

<table>
<thead>
<tr>
<th>PUC Section</th>
<th>Requirement</th>
<th>Compliance</th>
<th>Comments</th>
</tr>
</thead>
</table>
| PUC 6754 (a) (3) | If the operator receives State Transit Assistance funds, the operator makes full use of funds available to it under the Urban Mass Transportation Act of 1964 before TDA claims are granted. | In Compliance | Unitrans has applied for and received many different FTA grants during the course of the Audit period, and continues to be active in its pursuit of grants:  
- FY 12/13 - $1,328,913  
- FY 14/15 - $1,369,179  
- FY 14/15 - $1,331,417 |
| PUC 99243 | The transit operator annually reports to the RTPA, based upon the Uniform System of Accounts and Records established by the State Controller, within 90 days of the end of the fiscal year, or 110 days if filed electronically. | In Compliance | All State Controller’s Reports (SCRs) for the three (3) fiscal years of the Audit period were submitted electronically within 110 days past the end of the fiscal year for each SCR.  
- FY 12/13 = 9/25/2013  
- FY 13/14 = 9/24/2014  
- FY 14/15 = 9/18/2015 |
### Table 2-1: Unitrans Compliance with TDA Requirements (continued)

<table>
<thead>
<tr>
<th>PUC Section</th>
<th>Requirement</th>
<th>Compliance</th>
<th>Comments</th>
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</table>
| PUC 99245   | The operator has submitted annual fiscal and compliance audits to its RTPA and to the State Controller within 180 days following the end of the fiscal year, or has received the appropriate 90-day extension allowed by law. | In Compliance | Fiscal and Compliance Audits completed for Unitrans were completed within 180 days after the end of the audit period for which they apply.  
- FY 12/13 = 12/26/2013;  
- FY 13/14 = 12/29/2014;  
- FY 14/15 = 12/28/2015. |
| PUC 99251   | The CHP has, within the 13 months prior to each TDA claim, submitted by an operator, certified the operator’s compliance with Vehicle Code Section 1808.1 following a CHP inspection of the operator’s terminal. | In Compliance | Unitrans CHP Inspections were completed with “Satisfactory Terminal Ratings” during the audit period.  
- 7/25/2013;  
- 7/24/2014;  
- 8/25/2015. |
<p>| PUC 99261   | The operator’s claim for TDA funds is submitted in compliance with rules and regulations adopted by the RTPA for such claims. | In Compliance | For Unitrans, the City of Davis submits claims to Sacramento Area Council of Governments (SACOG) according to the instructions and procedures laid out by SACOG. SACOG instructs claimants on these procedures. |</p>
<table>
<thead>
<tr>
<th>PUC Section</th>
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<th>Compliance</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUC 99264</td>
<td>The operator does not routinely staff two (2) or more persons with public transportation vehicles designed to be operated by one person.</td>
<td>In Compliance</td>
<td>Vehicles are routinely only staffed with one person, the vehicle’s driver. The exceptions are the double-decker buses, which require two (2) persons for safe and efficient operations.</td>
</tr>
</tbody>
</table>
| PUC 99266   | The operator’s operating budget has not increased by more than 15% over the preceding year, nor is there a substantial increase or decrease in the scope of operations or capital budget provisions for major new fixed facilities unless the operator has reasonably supported and substantiated the charge(s). | In Compliance | During each year of the audit period, the operating costs increased (or decreased) as follows:  
  - FY 12/13 = 1.1%  
  - FY 13/14 = 10.4%  
  - FY 14/15 = 9.4% |
<table>
<thead>
<tr>
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<th>Compliance</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUC 99268.2, 99268.4, &amp; 99268.5</td>
<td>An operator’s funding from TDA may not exceed 50% of its operating, maintenance, and capital and debt service requirements (less deductions for federal grants). If the operator serves a rural area, it has maintained a ratio of fare revenues to operating costs at least equal to one-tenth (10%) of the farebox recovery ratio.</td>
<td>In Compliance</td>
<td>Unitrans has had no difficulty in maintaining a farebox recovery ratio of more than 20%. Fiscal and Compliance Audits for the Audit period show that Unitrans was able to achieve a farebox recovery ratio of 20% or more. • FY 12/13 = 61.3% • FY 13/14 = 57.5% • FY 14/15 = 56.6%</td>
</tr>
<tr>
<td>PUC 99268.5</td>
<td>If an operator’s services are for the exclusive use of elderly and handicapped persons, it has maintained a fare ratio of at least one-tenth (10%).</td>
<td>N/A</td>
<td>Unitrans does not operate a distinct service exclusively for the use of elderly and disabled persons.</td>
</tr>
</tbody>
</table>
### Table 2-1: Unitrans Compliance with TDA Requirements (continued)

<table>
<thead>
<tr>
<th>PUC Section</th>
<th>Requirement</th>
<th>Compliance</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUC 99271</td>
<td>The current cost of the operator's retirement system is fully funded with respect to officers and employees of its public transportation system or the operator is implementing a plan approved by the RTPA, which will fully fund the retirement system within 40 years.</td>
<td>In Compliance</td>
<td>Unitrans's professional employees are employees of the University of California Davis and enjoy retirement benefits through the UC Retirement Plan (UCRP). Retirement benefits are calculated using a member's years of service credit, age at retirement, and final compensation (average salary for a defined period of employment). While UCRP has a $12.1B unfunded liability, contributions have been increased while a second tier of lower benefits was introduced in 2012. The retirement system is backed by securities and the State. All other employees are part-time students who do not accrue retirement benefits.</td>
</tr>
</tbody>
</table>
Table 2-1: Unitrans Compliance with TDA Requirements (concluded)

<table>
<thead>
<tr>
<th>PUC Section</th>
<th>Requirement</th>
<th>Compliance</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>PUC 99314.5</td>
<td>If the operator receives State Transit Assistance funds, the operator is not precluded by contract from employing part-time drivers or from contracting with common carriers.</td>
<td>In Compliance</td>
<td>When STA funds are made available to SACOG, 100% of these funds are directed to Unitrans and other transit operators for the purposes of providing public transportation. Almost all Unitrans drivers are part-time.</td>
</tr>
<tr>
<td>CCR 6634</td>
<td>No operator or transit service claimant shall be eligible to receive money during the fiscal year from the Local Transportation Fund and the State Transit Assistance fund for operating costs in an amount that exceeds its actual cost.</td>
<td>In Compliance</td>
<td>Unitrans has not received an amount of LTF and STA funding that has exceeded their operating costs, except for capital reserves.</td>
</tr>
</tbody>
</table>
3.0 PRIOR AUDIT RECOMMENDATIONS

This section includes a formal and systematic review of Unitrans’ implementation of the recommendations from the prior Audit. The implementation of the prior Triennial Performance Audit (TPA) recommendations provides a measure of Unitrans’ efforts to improve its efficiency and effectiveness. Evaluating each recommendation’s implementation and outcome also strengthens the integrity of the TPA process and helps to ensure that each Audit provides effective and valuable results.

The previous Performance Audit was completed by Majic Consulting Group in June 2013. The relevance, progress, effectiveness, and difficulties in implementing each recommendation were determined by reviewing relevant planning documents and reports, and through interviews with Unitrans staff and contractors.

Unitrans has demonstrated commitment to improving its efficiency and effectiveness by partially implementing three (3) of the five (5) prior recommendations. Of the two (2) that were not implemented, one (1) is no longer necessary due to the impact of adding double decker buses to replace traditional 40-foot buses, and one (1) has not been implemented.

RECOMMENDATION 1: CNG FUELING SYSTEM

Prioritize upgrading the Unitrans’ fueling facility including a new CNG fueling system and new above-ground diesel tanks.

*Status: Partially Implemented; Project in Progress, Recommendation to be carried forward with modification.*

*Prior Audit Rationale*

This was a carry forward recommendation from the 2010 TDA Audit. The two existing inside compressors used for fueling Unitrans’ CNG-powered vehicles had been in place for almost 20 years. Breakdowns occur frequently in one or both and repairs have become problematic since the original vendor is no longer in business. Many of the replacement parts were not available and must be custom built to keep the machinery working. As a result, fueling, which is scheduled at least once each day for each bus, had become impeded and takes additional time. The Audit suggested that Unitrans work with SACOG to secure program funding for the design and construction of the facility. Unitrans, with assistance of UCD engineering department, would need to develop specifications, design, and requirements for the CNG fueling. The aging underground diesel fuel storage tank poses a possible leakage threat. An above-ground tank will cost less than replacing the below-ground storage because it is less expensive to install, maintain, and remove. Below-ground tanks require pumping while an above-ground tank can operate on gravity flow. The below-ground tank has been subject to shifting and settling of the soil, which can lead to...
cracks and leakage. These cracks, because they are underground, can be very difficult to detect and can contaminate the soil. An above-ground tank would be easier to inspect and clean.

Discussion
This recommendation is in progress, partially implemented. The CNG Fueling Station is under design and a Request for Proposals (RFP) for equipment and installation is anticipated to be released in summer of 2016. The unique operating environment that Unitrans enjoys also features a requirement that most Unitrans capital projects be designed and construction managed (most procurements as well) by the DCM (Design & Construction Management) Department of UCD. This talented in-house resource provides a high level of technical expertise to Unitrans’ projects, but tends to elongate project timelines, as they also provide the same design and construction services for the entire University and manage multiple and complex projects, such as facility construction and on-campus seismic retrofits. This takes project delivery almost completely out of the hands of Unitrans’ staff.

RECOMMENDATION 2: BUS PARKING

Evaluate options for either expanding the current facility, or finding a feasible property in the area for a satellite bus parking facility to accommodate future fleet expansion needs.

Status: Not Implemented; changed conditions no longer require additional bus parking.

Prior Audit Rationale
Unitrans’ Garrod Road Maintenance and Operations Facility was reaching the maximum bus parking capacity. The UCD administration recently announced student body enrollment was expected to grow by 5,000 new students over the next seven (7) years. In addition to other issues, the location of new student housing had not yet been identified. However, many of the new students were expected to rely upon Unitrans for their transportation needs during their time at the university. Increasing ridership and reliance on the public transportation system would most certainly result in added routes and an expanded fleet. It was recommended that Unitrans should evaluate options to either expand the current facility, or find a feasible property in the area for a satellite bus parking facility to accommodate future fleet expansion needs.

Discussion
One of the other issues confronting Unitrans in 2013 was the process of obtaining formal approval from the California Air Resources Board (CARB) to purchase diesel-powered double-decker buses. At that time, and to this day, there were no commercially available CNG-powered double-decker buses available in the transit marketplace. Unitrans had long
ago chosen the “alternative fuel” CARB compliance path, which generally prevents the purchase of diesel buses. However, Unitrans was lobbying that if CARB considered the overall fleet composition (all CNG, except the double-deckers) Unitrans could purchase diesel double-deckers and still meet overall compliance metrics. This effort was successful. CARB issued a letter to Unitrans stating its concurrence with using the overall fleet average and allowing the purchase of diesel double-deck buses.

With the ability to purchase and expand the double-deckers now and into the foreseeable future, Unitrans management feels that the amount of buses required to meet the service needs in the foreseeable future will be met with less revenue vehicles (due to the higher capacity of the double-deckers), thus extending the life of the Garrod facility and deferring the need for an expansion of Garrod or the establishment of a separate satellite facility.

**RECOMMENDATION 3: ETP TRAINER**

Add a second DMV-approved ETP Trainer. Unitrans currently only has one (1) California Department of Motor Vehicles (DMV) approved Employer Testing Program (ETP) Trainer. In order to build organizational depth and ensure its ability to continue to meet each summer’s driver training needs, Unitrans should add a second full-time DMV-approved Behind the Wheel (BTW)/ETP trainer.

*Status: Partially implemented; to be fully addressed through other actions (new full time position).*

**Prior Audit Rationale**

Unitrans currently only had one (1) DMV-approved ETP (Employer Testing Program) Trainer. In order to build organizational depth, and ensure its ability to continue to meet each summer’s driver training needs, the prior Audit recommended that Unitrans add a second full-time DMV-approved BTW trainer. Unitrans training section staffing appeared to be below the number of FTEs required to ensure that adequate numbers of trained drivers were available each August for expanded and reworked services (Unitrans does their major annual service change each August). DMV policy changes regarding the “employer testing program” (ETP) impacted Unitrans’ ability to staff each summer, as Unitrans relied upon their single DMV-certified behind the wheel (BTW) trainer to conduct final licensing tests on new student drivers. Unitrans’ ability to expand (and even maintain previous) service levels was deemed dependent upon the ability to continue onsite DMV behind the wheel (BTW) ETP training and on Unitrans’ DMV approved trainer ability to conduct the critical driving tests quickly at the Unitrans facility and around Davis.

**Discussion**

Unitrans was able to attract a couple recently graduated drivers with the requisite skill sets and driving records to join the Unitrans team as part-time, DMV-certified ETP behind-the-
wheel trainers. This has proven very valuable and has met this recommendation in general. The flexibility to deploy the extra DMV ETP/BTW trainers as needed during periods of intense driver training has proven successful so far. Looking ahead, these part-time BTW trainers may or may not be utilized. Unitrans has identified the need to create a new full-time professional position dedicated completely to driver training. Today a single position is responsible for both training and safety. Unitrans staff feel that this is a high priority, especially now, with the new FTA emphasis on Safety, and the continuous training needs unique to Unitrans.

**RECOMMENDATION 4: DOUBLE DECKER BUSES**

Add more double-decker buses. Unitrans’ most popular and highly efficient vehicles are the double-decker buses. Unitrans, with help from SACOG (and CTA), should continue to push on CARB to issue another waiver to enable purchase of a few more of the popular and high capacity double-decker buses.

**Status: Partially Implemented; Project in Progress, Recommendation to be carried forward with modification.**

**Prior Audit Rationale**

Unitrans' most popular and highly efficient vehicles are the double-decker buses, both the vintage vehicles from the United Kingdom, and the new Alexander Dennis modern buses introduced recently. The California Air Resources Board (CARB) has been reluctant to issue a waiver so that Unitrans can purchase more diesel double-deckers (there are no CNG double-decker vehicles available in the industry at this time). Unitrans, with help from SACOG (and CTA), should continue to push on CARB to issue another waiver to enable purchase of a few more of the popular and high capacity double-decker buses. This may require extensive outreach and pressure by both SACOG and the UCD.

**Discussion**

This recommendation is in progress and moving towards implementation. CARB has provided Unitrans with permission to purchase diesel double-decker buses. Unitrans has successfully joined a purchase contract for diesel double-decker buses being led by Alameda-Contra Costa (AC) Transit (three (3) options reserved for Unitrans). Unitrans is working with SACOG and other funding sources to secure the funding to purchase the buses in the near future.
RECOMMENDATION 5: MARKETING

Create a Strategic Marketing Plan to be updated each year and track effectiveness.

Status: Not Implemented; Recommendation to be carried forward with modification.

Prior Audit Rationale

Unitrans had a successful and robust marketing effort overall, but had not focused the work by creating and adopting a formal marketing plan. The marketing was handled by student staff with frequent turnover. Strategic direction will assist UCD to build a more cohesive marketing campaign to support its very recognizable brand. By going through the exercise of documenting all efforts to date, and evaluating current threats and opportunities, Unitrans could fill gaps in the current outreach and communication efforts, and provide continuity in order to adapt to student marketing staff turnover each year.

The Marketing Plan would include the following elements:

1. **Description of target market**: For example, students, faculty, and staff of UCD and the residents of the City of Davis. Further geographic or demographic targeting could be beneficial. For travel training program, Unitrans may specifically want to target seniors 55 years of age or older and persons with disabilities.

2. **Marketing goals and objectives**: For example, increase ridership by 10% or increase ridership on specific routes or times.

3. **Marketing strategy**: Increase visibility and awareness of Unitrans among residents and the targeted populations.

4. **Marketing tactics**: Each strategy needs to be supported by specific tactics or tasks. Each task will tie to one (or more) strategies. Examples of tasks or tactics could include—
   - Consistent branding imagery, including color, in all collateral materials;
   - Develop holiday shopping promotion;
   - Develop and air of three radio spots;
   - Develop newsletter; and
   - Promote the Travel Training Program.

5. **Marketing budget**: Set the overall budget for the marketing program and estimate the amount to be allocated to each program. This will allow funds to be reallocated if new opportunities arise or in case of overruns or savings for a particular program. As a rule of thumb, to maintain ridership, the marketing budget should equal three (3) to four (4) percent of the operating budget. To grow ridership a five (5) to six (6)
percent budget is more appropriate. However, due to its large percentage of student riders, Unitrans may find a lower budget acceptable.

6. **Evaluation methods for marketing programs**: Develop methods, including quantifiable standards and measures, to determine the impact that marketing programs have on ridership and awareness. Riders should be surveyed every two (2) to three (3) years to determine rider satisfaction and needed improvements. Surveys can provide valuable insight to improved service and marketing.

**Discussion**

This recommendation has not been implemented. Unitrans’ staff sees the value in improving continuity between each annual change of marketing staff, but has not been able to find the time, and is reluctant to expend significant funding on a formal marketing plan. Staff is more interested in developing a simple, “Marketing and Outreach Manual” or “Marketing Succession Plan” akin to a “marketing cookbook”, where lessons learned and tasks can be memorialized and evaluated each year to document marketing and outreach efforts and their effectiveness. By creating this document collaboratively across specialties within Unitrans staff, target markets within Davis (students but also others) and key programs, such as travel training can be formalized and then a practical outreach and marketing strategy for each market developed. This is envisioned as a working document to mitigate the annual loss of vision and institutional memory. A basic **MARKETING MANUAL** has been created. It would benefit the marketing and outreach staff to specify key branding and positioning strategies, such as the use of the logo and colors. Another beneficial practice would be to update the document monthly, or at least quarterly, as various campaigns and programs are implemented within the various market segments and as new events attended and to evaluate the effectiveness of these efforts. The end result and value added to Unitrans will be an updated “marketing manual” to guide the efforts of the new marketing students each year.
4.0 PERFORMANCE MEASURES AND INDICATORS

Under the Transportation Development Act (TDA) transit operators receiving state funds are required to report on several performance indicators to ensure that transit systems are operating efficiently within a three-year period. These performance indicators provide insight into the overall efficiency and effectiveness of the transit operations. The five (5) performance measures examined under TDA are as follows:

- Operating Cost per Vehicle Service Hour;
- Operating Cost per Passenger;
- Passengers per Vehicle Service Hour;
- Passengers per Vehicle Service Mile; and
- Vehicle Service Hours per Full-Time Equivalent Employee.

The Transportation Development Act also requires transit agencies to achieve a farebox recovery ratio of at least 20% of operating costs for services in urban areas, such as Davis.

To assess the validity and usefulness of the performance indicator data, the Audit team performed the following activities:

- Assessed internal controls in place for the collection of performance-related information;
- Validated collection methods for key data;
- Calculated the performance indicators; and
- Evaluated the performance indicators.

4.1 Verification of Performance Measures Overview

The procedures used to calculate the TDA-required performance measures for the Audit period were verified. Measures reported in internal reports, State Controller’s Reports, and fiscal audits were compared against one another for consistency and then verified.

The following performance measures used in the calculation of TDA-required performance measures were validated:

- Operating Cost;
- Vehicle Service Hours and Miles;
- Passenger Counts;
- Fare Revenues; and
- Full-Time Equivalents.
4.1.1 OPERATING COSTS

Operating cost is defined as operating expense object classes excluding depreciation, amortization, lease cost, and all direct costs for providing charter services.

Operating costs were not independently calculated as part of this Audit. We examined operating costs from the fiscal audit reports prepared by Richardson & Company, Certified Public Accountants & Management Consultants. The audits appear to be consistent with TDA guidelines and accurately reflect all the costs in the operating expenses category for Unitrans’ services. The reported operating costs excluded depreciation expenses for the calculation of the farebox recovery ratio, in accordance with PUC 99247 (a).

Table 4-1: Unitrans Comparison of Operating Cost by Source

<table>
<thead>
<tr>
<th></th>
<th>Fiscal &amp; Compliance Audit</th>
<th>State Controller’s Reports</th>
<th>Δ from Audit</th>
<th>NTD Reports</th>
<th>Δ from Audit</th>
<th>Internal Reports</th>
<th>Δ from Audit</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 12/13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Cost</td>
<td>$4,258,821</td>
<td>$4,258,821</td>
<td></td>
<td>$4,133,821</td>
<td>-2.9%</td>
<td>$4,133,821</td>
<td>-2.9%</td>
</tr>
<tr>
<td>Depreciation</td>
<td>$2,425,430</td>
<td>$2,425,430</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Operating Cost for Farebox</td>
<td>$2,609,501</td>
<td>$2,609,501</td>
<td>0.0%</td>
<td>$2,136,424</td>
<td>-18.1%</td>
<td>$2,484,501</td>
<td>-4.8%</td>
</tr>
<tr>
<td>FY 13/14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Cost</td>
<td>$4,699,650</td>
<td>$4,619,281</td>
<td>-1.7%</td>
<td>$4,524,650</td>
<td>-3.7%</td>
<td>$4,444,281</td>
<td>-5.4%</td>
</tr>
<tr>
<td>Depreciation</td>
<td>$2,149,460</td>
<td>$2,149,460</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Operating Cost for Farebox</td>
<td>$2,702,860</td>
<td>$2,702,860</td>
<td>0.0%</td>
<td>$2,767,881</td>
<td>2.4%</td>
<td>$2,265,276</td>
<td>-16.2%</td>
</tr>
<tr>
<td>FY 14/15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Cost</td>
<td>$5,139,781</td>
<td>$5,100,805</td>
<td>0.8%</td>
<td>$4,925,805</td>
<td>-4.2%</td>
<td>$4,925,805</td>
<td>-4.2%</td>
</tr>
<tr>
<td>Depreciation</td>
<td>$2,114,655</td>
<td>$2,114,655</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Operating Cost for Farebox</td>
<td>$2,910,145</td>
<td>$2,910,145</td>
<td>0.0%</td>
<td>$2,854,729</td>
<td>-1.9%</td>
<td>$2,735,145</td>
<td>-6.0%</td>
</tr>
</tbody>
</table>

As indicated on Table 4-1: Unitrans Comparison of Operating Cost by Source, slight variations in the reporting of Operating Costs and Farebox under the different reports exists. Variations in operating costs in National Transit Database (NTD) and internal reports are within 5% in the reporting years, which is similar to the previous audit report. However, slightly larger variations can be seen in Farebox reporting which can be attributed to what is reported under various reports. For example, NTD reports allow for other non-transit related revenue which is not included as part of the calculations in this report.
Under *Figure 4-1: Unitrans Operating Cost*, Operating Costs as a whole increased significantly during the triennial reporting period. From FY 12/13 to FY 13/14, operating costs increased by over 10% and then by 9% from FY 13/14 to FY 14/15. Within the three (3) year reporting period, Unitrans increased service in FY 13/14 by—

- Providing later service on the Summer/Break Schedule, and Friday nights;
- Re-introducing the H-Line perimeter shuttle;
- Increasing frequencies on the M-Line from every 30 to 15 minutes; and
- Adding the D, L, and V Lines to the Weekend Service.

These service enhancements drove the audit period overall level of service to increase by almost 6%. These additional revenue hours contribute to the sharp increase in operating costs. However, another large contributing factor in the uptick in operating costs was in compliance with a statewide increase in the Minimum Wage that was implemented by Governor Brown and took effect July 1, 2014. This rise in Minimum Wage from $8.00 per hour to $9.00 per hour impacts Unitrans far more than most transit agencies due to the fact that most of Unitrans’ bus operators are part-time students that are paid minimum wage. This $1.00/ hour increase accounts for most of the 9% operating cost increase endured between FY 13/14 and FY 14/15. On a side note, the next approved rise in California’s Minimum Wage (from $9/hour to $10/hour) took effect on January 1, 2016 and is impacting Unitrans’ operating costs this year and will reflect in the next audit period.

*Figure 4-1: Unitrans Operating Cost*
4.1.2 VEHICLE SERVICE HOURS

Vehicle service hours (VSH) are the times during which a revenue vehicle is available to carry fare-paying passengers. This includes only those times between the time or scheduled time of the first passenger pick up and the time or scheduled time of the last passenger drop-off during the vehicle’s period of continuous availability. VSH excludes hours of deadhead travel to the first scheduled pick-up location and from the last scheduled drop-off location back to the terminal, whether or not passengers board or exit at those points (deleting lunch and breaks, but including scheduled layovers less than 15 minutes). For the purposes of this report, VSH data was obtained from the annual State Controller’s Report (SCR) and were verified against NTD reports. VSH and VSM are tracked according to TDA definitions.

VSH are based on the printed schedule, then adjusted to include additional tripper hours, last trip late buses, and to subtract any missed trips. VSM are tallied using mileage readings recorded at the start and end of each driver shift.

Figure 4-2: Unitrans Vehicle Service Hours 10-Year Trend

VSH has steadily increased since the recession of FY 07/08 through FY 08/09. During the triennial reporting period, VSH increased by more than 4% in FY 13/14 and just slightly in FY 12/13 and FY 14/15. The 4.37% bump in FY 13/14 was due to the service enhancements that occurred during this time as outlined above (increasing service spans and the introduction of new service).
4.1.3 VEHICLE SERVICE MILES

Vehicle service miles (VSM) are the miles traveled by revenue vehicles during the VSH. Similar to VSH, data was obtained from the annual SCR and were verified against NTD reports.

The recession had an impact on VSM during the ten-year period. It was not until the last five (5) years in which VSM began to increase.

During the triennial audit period, FY 13/14 VSM increased by more than 5% due to service improvements (additional hours, more service on the eastern areas of Davis) that occurred during that year. Growth in ridership as indicated in the following sections, justify the increase in VSM. As service improvements take place to address transit demand, a growth in VSM is a positive result.
4.1.4  VSM PER VSH

Vehicle service mile per vehicle service hour (VSM per VSH), or speed, is a measure of efficiency. By increasing the VSM per VSH, the efficiency of the operations is increased. However, a number of factors can impact this measure, including safety, scheduling to achieve on-time performance, increased congestion, and passenger requirements, such as the number of wheelchair boardings.

During the previous triennial audit period, it was determined that the significant drop in FY 09/10 was due to an error in the calculation which was confirmed when examining the NTD report. Since that time, (and more importantly during this reporting period) VSM per VSH has slightly increased with relatively more service miles covered and delivered during revenue service hours. As mentioned above, the VSM to VSH ratio is also increasing due to more service covering the higher speeds (and less stopping) areas of eastern Davis, where buses average higher speeds. In addition, the recent completion of the Russell Blvd. ITS/TSP Project has reduced the amount of time that Unitrans buses spend dwelling at traffic lights, improving overall bus speeds.
4.1.5 PASSENGER COUNTS

Passenger Counts for the purpose of this report, are based on the total number of unlinked passenger trips (all boardings) whether revenue producing or not. Unlinked Passenger Trips were obtained from the annual SCR and were verified against NTD reports.

Unitrans features automatic passenger counters (APCs) on its fleet, and for several years has been calibrating the APCs against the manual passenger counting process that occurs simultaneously on each run. Unitrans has developed a procedure to calibrate its APC counts against the manual counting process that its bus drivers perform, to average out and validate the APC counts. While not yet initiating the involved process to have NTD accept the ridership numbers and passenger trip lengths being produced by the APC system, this monthly calibration process provides Unitrans management with confidence in both its traditional driver counts and the data from the APCs.

Similar to trends in VSH and VSM, Unitrans experienced a drop in unlinked passenger trips during the recession of FY 06/07 and FY 07/08. Beginning in FY 08/09, unlinked passenger trips began to increase. During this triennial reporting period, unlinked passenger trips in FY 12/13 increased by more than 5%, then grew slower, at +1.5% in FY 13/14 and +0.85% in FY 14/15. While service improved the most in FY 13/14, unlinked passenger trips only increased by 1.5% from the previous year. Increases in ridership due to service span adjustments and new routes take time to build. As these improvements mature, Unitrans may gain more riders from these system improvements. Also, rider satisfaction is likely higher after the added hours.

Figure 4-5: Unitrans Passenger Counts 10-Year Trend
4.1.6 FARE REVENUES

Fare revenues include revenues earned from carrying passengers along regularly scheduled and demand responsive routes. It includes the base fare, zone premiums, express service premiums, extra cost transfers, and quality purchase discounts applicable to the passenger's ride. It also includes Special Transit Fares, which are revenues earned for rides given in regular transit service, but paid for by some organization other than the rider. This includes funds for rides given along special routes for which funds may be guaranteed by a beneficiary of the service.

The majority of the fare revenue is derived from Unitrans’ UCD student transit fees. Fare revenue collected on the vehicles represents a small portion of the fare revenue. Fare revenue data was collected from the annual fiscal audit reports.

In FY 12/13, Unitrans reported fines and forfeitures as part of the revenue stream. Fines and forfeitures were fees collected revenue from parking tickets issued by the UCD Transportation and Parking Services (TAPS). These funds were used for capital projects that the University would implement in support of Unitrans. Fines and forfeitures were last reported in FY 12/13. Unitrans no longer receives revenue from this fund source.

For the calculation of the farebox recovery ratio, Unitrans has traditionally included City of Davis (Davis Community Transit/DCT) fare revenue (and expenses).

The supermajority of Unitrans’ riders use student ID flash passes. Rider counts are entered (by fare type/demographic) onto the drivers’ daily printed manifests, and then fares are calibrated against the driver block sheets/manifests during the money count. The cash that is collected is then processed through a sophisticated system that begins at the fuel island, where vaults are pulled, placed into locked bank bags, and conveyed to the money room via a drop chute. The bags are then marked by bus/block and delivered to the ASB coffee shop for counting and depositing.

Figure 4-6: Unitrans Fare Revenues 10-Year Trend (next page) shows a gradual increase in transit fees and fares during the three year, triennial audit period. This is consistent with the continual growth in ridership. FY 14/15 had the highest increase during the three-year period recording more than a 7% increase in total revenue from FY 13/14.
Figure 4-6: Unitrans Fare Revenues 10-Year Trend
4.1.7 FULL-TIME EQUIVALENTS

Full-time equivalents (FTEs) are calculated by gathering the total number of employee hours during transit operations, and dividing by 2,000. FTE data was collected from the annual SCR.

FTE gradually increased during the ten-year analysis period. By FY 14/15, Unitrans had the highest FTE in its history. This metric plays an important role in understanding labor productivity, which will be discussed further in the VSH per FTE portion of this report. During the triennial period, FTE increased by approximately 3% in FY 12/13 and FY 13/14 and by almost 2% in FY 14/15, primarily attributable to the increase in revenue hours over the audit period.

Figure 4-7: Unitrans Full-Time Equivalents 10-Year Trend

Unique to Unitrans (at least in California) are conductors that accompany the bus operators on the five (5) double-decker buses. The conductors collect fares and verify passes and assist with passenger boarding and alightings on these heavily-used runs. The presence of the paid conductors do increase operating costs slightly; however, the value gained by deployment of the uber-popular double-decker vehicles offsets the slight cost increase on these trips. Double-decker buses are deployed on the heaviest boarding routes during the busiest parts of the service day. Unitrans’ drivers that operate the double-decker buses undergo additional training including highway and Sacramento-based courses.
4.2 Calculation of TDA-Required Performance Indicators

The TDA required performance indicators were calculated for each service and then totaled. Performance indicators for the three-year Audit period were calculated, excluding depreciation expenses. Data for the three-year period were verified in the calculation of the TDA indicators.

The following performance measures were used:

- Operating Costs were calculated from Unitrans fiscal audits during the Audit period.
- Constant Operating Costs were calculated based on the California Consumer Price Index as calculated by the California Department of Finance with FY 05/06 as the base year.
- Depreciation was subtracted from the total costs.
- Fare Revenues were taken from the fiscal audits.
- Vehicle Service Hours (VSH) were from the State Controller’s Reports.
- Vehicle Service Miles (VSM) were from the State Controller’s Reports. During the previous audit period, FY 09/10 figures were from NTD reports.
- Passenger Counts were obtained from State Controller’s Reports.
- Full-Time Equivalents (FTE) were obtained from State Controller’s Reports, which were populated by the University’s payroll data, cumulative annual payroll hours divided by 2,000.
### Unitrans Performance Measures

**FY 05/06** | **FY 06/07** | **FY 07/08** | **FY 08/09** | **FY 09/10** | **FY 10/11** | **FY 11/12** | **FY 12/13** | **FY 13/14** | **FY 14/15**
---|---|---|---|---|---|---|---|---|---
**Operating Cost (Actual $)** | $3,436,122 | $3,477,770 | $3,887,920 | $4,151,072 | $3,969,011 | $4,212,464 | $4,258,821 | $4,699,650 | $5,139,781
  Annual Change | 0.0% | 1.2% | 11.8% | 6.8% | -4.4% | 11.6% | -4.9% | 1.1% | 10.4% | 9.4%
  Annual Change | 0.0% | -2.1% | 8.1% | 5.4% | -5.1% | 9.7% | -7.2% | -1.0% | 8.8% | 7.7%
**Fare Revenue (Actual $)** | $1,967,747 | $2,003,833 | $2,436,142 | $2,560,088 | $2,490,633 | $2,507,839 | $2,570,266 | $2,609,501 | $2,702,655
  Annual Change | 0.0% | 1.8% | 21.6% | 5.1% | -2.7% | 0.7% | 2.5% | 1.5% | 3.6% | 7.7%
**Vehicle Service Hours** | 71,288 | 70,335 | 68,477 | 69,913 | 73,594 | 77,838 | 79,345 | 80,050 | 83,550 | 83,996
  Annual Change | 0.0% | -1.3% | -2.6% | 2.1% | 5.3% | 5.8% | 1.9% | 0.9% | 4.4% | 0.5%
**Vehicle Service Miles** | 752,515 | 736,797 | 704,711 | 718,701 | 714,234 | 790,901 | 803,164 | 810,007 | 847,834 | 867,402
  Annual Change | 0.0% | -2.1% | 4.4% | 2.0% | -0.6% | 10.7% | 1.6% | -0.3% | 5.8% | 2.3%
  Annual Change | 0.0% | -3.0% | -1.2% | 9.1% | 2.4% | 1.7% | 3.2% | 5.5% | 1.5% | 0.9%
**Full-Time Equivalents** | 89.0 | 91.0 | 90.0 | 93.0 | 99.0 | 101.0 | 98.0 | 101.0 | 104.0 | 106.0
  Annual Change | 0.0% | 2.2% | -1.1% | 3.3% | 6.5% | 2.0% | -3.0% | 3.1% | 3.0% | 1.9%

### Unitrans Performance Indicators

**Operating Cost per VSH (Actual $)** | $48.20 | $49.45 | $56.78 | $59.37 | $53.93 | $53.92 | $53.09 | $53.20 | $56.25 | $61.19
  Annual Change | 0.0% | 2.6% | 14.8% | 4.6% | -9.2% | 5.6% | -6.7% | 0.2% | 5.7% | 8.8%
**Operating Cost per VSH (Constant $)** | $48.20 | $47.83 | $53.09 | $54.79 | $49.40 | $49.42 | $46.68 | $45.82 | $47.77 | $51.17
  Annual Change | 0.0% | -0.8% | 11.0% | 3.2% | -9.8% | 3.8% | -8.9% | -1.8% | 4.2% | 7.1%
**Operating Cost per Passenger (Actual $)** | $1.05 | $1.10 | $1.24 | $1.21 | $1.13 | $1.24 | $1.10 | $1.10 | $0.95 | $1.01
  Annual Change | 0.0% | 4.4% | 13.1% | -2.2% | -6.7% | 9.8% | -7.9% | -4.2% | 8.7% | 8.4%
**Operating Cost per Passenger (Constant $)** | $1.05 | $1.06 | $1.16 | $1.12 | $1.04 | $1.12 | $1.01 | $0.95 | $1.01 | $1.08
  Annual Change | 0.0% | 9.9% | 9.3% | -3.4% | -7.4% | 8.0% | -10.0% | -6.1% | 7.2% | 6.8%
**Passengers per VSH** | 45.90 | 45.13 | 45.81 | 48.97 | 47.66 | 45.80 | 46.36 | 48.48 | 47.15 | 47.29
  Annual Change | 0.0% | -1.7% | 1.5% | 6.9% | -2.7% | 3.9% | 1.2% | 4.6% | -2.7% | 0.3%
**Passengers per VSM** | 4.35 | 4.31 | 4.45 | 4.76 | 4.91 | 4.51 | 4.58 | 4.84 | 4.65 | 4.58
  Annual Change | 0.0% | -0.9% | 3.3% | 7.0% | -3.1% | -8.2% | 1.6% | 5.8% | -4.1% | -1.4%
**Farebox Recovery Ratio** | 57.27% | 57.62% | 62.66% | 61.67% | 62.75% | 56.60% | 61.02% | 61.27% | 57.51% | 56.62%
  Annual Change | 0.0% | 0.6% | 8.7% | -1.6% | 1.7% | -9.8% | 7.8% | 0.4% | -6.1% | -1.6%
**VSH per FTE** | 801 | 773 | 761 | 752 | 743 | 771 | 810 | 793 | 803 | 792
  Annual Change | 0.0% | -3.5% | -1.6% | -1.2% | -1.1% | 3.7% | 5.1% | -2.1% | 1.4% | -1.4%
**CPI Actual** | 206.9 | 213.9 | 221.3 | 224.2 | 225.9 | 229.8 | 235.3 | 240.3 | 243.7 | 247.4
  % Change | 0.0% | 3.4% | 3.4% | 1.3% | 0.7% | 1.7% | 2.4% | 2.1% | 1.4% | 1.5%
  Cumulative | 0.0% | 3.4% | 6.9% | 8.4% | 9.2% | 11.1% | 13.7% | 16.1% | 17.8% | 19.8%
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4.3 Analysis of Performance Indicators

Performance indicators provide a measure of the efficiency and effectiveness of the transit operations. The following performance indicators were analyzed:

- **Operating Cost per Vehicle Service Hour** indicates cost efficiency of the operations; the lower the operating cost is for each vehicle service hour, the more cost-efficient the service;

- **Operating Cost per Vehicle Service Mile** is not a TDA required performance measure. However, this provides insight into the cost efficiency of the operations, particularly in rural areas;

- **Operating Cost per Passenger** indicates cost effectiveness of the operations;

- **Passengers per Vehicle Service Hour** indicates service effectiveness of the operations;

- **Passengers per Vehicle Service Mile** is another measure of service effectiveness;

- **Vehicle Service Hours per Employee** measures the operations productivity;

- **Farebox Recovery** is not classified as a performance indicator. However, this is a TDA requirement and provides an indicator of the economy of the operations; and

- **Fare Revenue per Passenger** is a non-TDA indicator. However, this provides insight to the farebox recovery.
OPERATING COST PER VEHICLE SERVICE HOUR

Operating cost per vehicle service hour (VSH) measures cost efficiency. The lower the operating cost is for each vehicle service hour, the more cost-efficient the service.

Figure 4-8: Unitrans Operating Cost per Vehicle Service Hour 10-Year Trend

Operating cost per vehicle service hour fluctuated notably over the past ten years. Currently, FY 14/15 has the highest cost per VSH when compared to previous years. During the Audit period, the indicator increased unfavorably an average of 4.8% annually (3.1% in constant dollars). The percent increase grew exponentially over the Audit period from 0.2% (basically flat) in FY 12/13 to 8.8% in FY 14/15. This is due in part to the significant increases in operating costs which are a result of increasing labor (minimum wage hike) and insurance costs.

When comparing the averages over the three-year audit period, the previous audit period (FY 09/10 – FY 11/12) average was at $54.65 per hour in actual dollars, which was slightly more efficient than the current audit period of an average of $56.88. About half of the increases can be attributed to the minimum wage hike of 2014, especially the jump between FY 13/14 and FY 14/15. When comparing the figures in constant dollars, the current audit years had an average of $48.20 versus $49.11 in the previous audit years.
Although not a TDA required indicator, operating cost per vehicle service mile (operating cost per VSM) provides another measure of cost efficiency at the service mile level. Similar to operating cost per VSH, the lower the performance indicator, the more cost-efficient the service.

Operating cost per VSM has increased about 29% over the last 10 years. During the Audit period, the average operating cost per VSM was $5.60 in actual dollars. This was approximately 2% more than the previous audit period’s average at $5.47. When comparing the averages in constant dollars, the current audit period’s average was approximately 3% less at $4.75 versus what was reported in the previous audit period at $4.92. During the ten-year period, the operating cost per VSM peaked in FY 08/09 and gradually decreased until the FY 11/12. Consistent with increased operating costs and VSM, this metric begins to increase during the current audit period with the highest operating cost per VSM in FY 14/15.
4.3.3 OPERATING COST PER PASSENGER

Operating cost per passenger measures cost-effectiveness. As the operating cost per passenger increases, the cost-effectiveness of the service decreases. Decreases in operating cost or increases in the number of passengers favorably affect this indicator.

Over the ten-year period, Unitrans' operating cost per passenger fluctuated with increases peaking in FY 07/08, FY 10/11, and FY 14/15. Over this 10-year period, operating cost per passenger increased by 23.2%. However, when comparing constant dollars, the operating cost per passenger increased by just 3.0%. Fluctuations in this metric can be attributed to an increase in operating cost for the given year with declining unlinked passenger trips (such is the case with FY 07/08) or modest increases in trips from the previous year (as is the case with FY 10/11 and FY 14/15). During the triennial reporting period, unlinked passenger trips increased by 8.0% while operating costs per passenger increased by 13.0% during those years.
4.3.4 **PASSENGERS PER VEHICLE SERVICE HOUR**

Passengers per vehicle service hour (VSH) is an indicator of service effectiveness. The higher the number of passengers per VSH, the more effective the service is determined to be. Even small decreases in the ridership can have a major impact for this indicator when VSH remain constant or increase. This performance indicator measures ridership productivity—on how many passengers board the buses each revenue hour.

Similar to the previous metric, passengers per vehicle service hour fluctuated with higher rates in FY 08/09 and FY 12/13. Over the 10-Year period, Unitrans witnessed a 3.0% favorable increase in passengers per vehicle service hour. However, during the three-year audit period, this metric has decreased unfavorably by 2.0% from FY 12/13 to FY 13/14. The following year saw a very slight increase at 0.3%. While this measure is not at its historic high, 47.3 passengers per vehicle service hour is very high when compared to other transit operators throughout the State. This is typical of a mature and productive transit system, in that requested and delivered service expansions, be they extensions of span coverage (nights and weekends) or increased frequencies during existing service hours, rarely produce at the level of core (existing) service hours. By showing responsiveness to requests from its riders and the community for expanded services, predictably, Unitrans has seen its performance in this metric decline slightly during the audit period.
4.3.5 PASSENGERS PER VEHICLE SERVICE MILE

Passengers per vehicle service mile (VSM) provide another measure of service effectiveness. As the number of passengers per VSM climbs, the productivity of the service increases. This performance indicator measures ridership productivity on a linear scale, how many passengers board the bus by revenue mile.

Unitrans’ experienced fluctuations in passengers per vehicle mile as well. During the ten-year period, passengers per vehicle service mile have favorably increased by 5.3%. During the triennial reporting period, this metric has decreased by an average of 0.1%. This can be attributed to the increase in vehicle service miles outpacing the increase in unlinked passenger trips during the reporting period. This is typical of a mature and productive transit system, in that requested and delivered service expansions, be they extensions of span coverage (nights and weekends) or increased frequencies during existing service hours, rarely produce at the level of core (existing) service hours.
4.3.6 VEHICLE SERVICE HOURS PER EMPLOYEE

Vehicle service hours per full-time equivalent (VSH per FTE) is an indicator of service productivity given the labor force. As the number of VSH per FTE (2,000 employee hours equals one FTE) climbs, the productivity of the operation increases.

This performance indicator measures service delivery productivity, a proxy for organizational streamlining. The measure divides vehicle service hours by number of FTEs.

Figure 4-17: Unitrans Vehicle Service Hours per Employee

Unitrans VSH per FTE decreased during the first five years of the 10-year analysis period. Productivity increased in subsequent years and fluctuated during the triennial audit period. As noted in previous metrics, FY 13/14 saw an increase in service hours when compared to the other audit years (i.e., 4% in FY 13/14 as opposed to less than 1% in FY 12/13 and FY 14/15). Moreover, FTE increased by relatively the same rate (approximately 3%) during the first two years of the audit period and by only 2% in FY 14/15. As a result, Unitrans experienced one of its most productive years in this metric in FY 13/14. Unitrans’ unique usage of a large group of part-time employees (students) continues to suppress this statistic (versus “traditional” transit systems that utilize career employees) but is the driver of most other highly favorable transit metrics.
4.3.7 FAREBOX RECOVERY RATIO

TDA requires a farebox recovery ratio of at least 20% for Unitrans as a small urban operator. For reporting purposes, Unitrans farebox recovery ratio is combined with the City of Davis specialized services, Davis Community Transit. As long as the total farebox achieves the minimum ratio, TDA allows a combined ratio for services for the elderly and persons with disabilities and general ridership.

Figure 4-18 Unitrans Farebox Recovery Ratio

Unitrans continues to enjoy one of the highest farebox recovery ratios in California. Unitrans Farebox is reported with Davis Community Transit, which provides Americans with Disabilities paratransit service for the Unitrans’ service area. Calculated by dividing total fares (which includes student fees and fares) by total operating costs, this metric shows the proportion of revenue that pays for transit operations. Over the ten-year period, revenues account for more than 50% of the operations and, at times, exceeding 60% of the operations. TDA requires the agency to maintain that revenues account for only 20% of the operations. Thus, Unitrans continues to far exceed this standard at any given year. Not surprisingly, the recent service expansions have reduced Unitrans’ farebox recovery, but only slightly. This is normal, as most service expansions, with a few exceptions, do not produce ridership at the rate as existing, established services.
4.3.8 **FARE REVENUE PER PASSENGER**

The fare per passenger performance indicator is comprised of the passengers and fare revenue performance. Although not a TDA indicator, the fare per passenger may provide insight into the farebox recovery ratio.

*Figure 4-15: Unitrans Fare Revenue per Passenger*

Calculated by dividing total fares (includes passes/fees from students) by total passengers, this metric measures a system’s efficiency. Unitrans benefits greatly from the dedicated fare revenue stream from the UCD students’ election to pay a set fee per student to Unitrans in exchange for unlimited system usage. During the ten-year period, Unitrans averages $0.70. During the triennial audit period, the fare revenue per passenger gradually increased. This may relate to UC Davis’s aggressive expansion of student enrollment in recent years (and the corresponding increase in student fees paid to Unitrans) slightly outpacing actual Unitrans ridership. Unitrans should continue to monitor this metric to ensure that the agency remains productive as it has in the past. It might be helpful to isolate a metric that divides UC Davis annual enrollment by Unitrans’ ridership over time, to measure the level of usage of the transit system by the UCD student body.
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5.0 FUNCTIONAL REVIEW

The primary functions of Unitrans, as a transit operator, are reviewed within this section. The functions are reviewed in terms of their efficiency and effectiveness of the subsequent activities of each function. An assessment of the resources committed to the functions provides a useful insight into Unitrans’s priorities and how successful it is in meeting them.

The following specific aspects of Unitrans are examined in this section:

- General management and organization;
- Service planning;
- Scheduling, dispatch, and operations;
- Personnel management and training;
- Marketing and public information;
- Charters; and
- Maintenance.

5.1 General Management and Organization

The management and organization of each transit operator determines their ability to realize their potential. The quality and appropriateness of the management of the transit service will be assessed through interviews with management, staff, and board members and review of management directives, organization charts, and general practices. The assessment will include a review of—

- Governing Board Activities;
- Organizational structure and reporting;
- Administration; and
- Budgeting & Grants Management.

5.1.1 GOVERNING BOARD ACTIVITIES

Unitrans is a unit of the Associated Students of UC Davis (ASUCD) and has been a primarily student-operated bus system since beginning in 1968. The ASUCD Senate oversees Unitrans and adopts an annual budget for its operation. Unitrans is also a function of the City of Davis, with the Davis City Council and Unitrans Advisory Committee (UAC) providing policy guidance.

The City of Davis has funded the service since 1972 when service was made available to the general public. The City provides local Transportation Development Act (TDA) funds and Federal Transit Administration (FTA) funding for small urban areas (Section 5307) to support capital and operating costs. The Davis City Council, with support from UAC,

Prepared for
Sacramento Area Council of Governments
oversees Unitrans in its adoption of an annual operating agreement and the submittal and approval of FTA grants for capital and operating funds.

The shared governance of Unitrans by both the Associated Students of UC Davis (ASUCD) and Davis City Council works well. ASUCD provides policy direction for Unitrans with an emphasis on maintaining and increasing service levels on and to/from the campus, while Davis City Council encourages Unitrans to expand and improve service to/from other important destinations around Davis (downtown, retail, social services) outside campus. Both boards desire continued service improvements for nights and weekends, and during summer and academic break periods.

Figure 5-1: UCD Student Union

5.1.2 ORGANIZATIONAL STRUCTURE AND REPORTING

The Unitrans service is unique in their use of students as drivers and in many other support positions. There are a total of 15 permanent career positions that are supported by over 200 part-time employees, all of whom are UC Davis students who work around their class schedules. The program is managed by the General Manager and a staff of five (5) full-time management employees plus eight (8.75) full-time workers in the Maintenance Division. Using the students to fill many positions, including planning-related and marketing jobs and assisting in the maintenance department, including bus fueling, results in a very cost-effective operation due to the lower wages earned by the students (generally minimum wage).
Figure 5-2: Unitrans Organization Chart 2015
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While extremely cost-efficient, and renowned as a training ground for future transit professionals in both operations and administration, the current staffing strategy presents challenges as well. Operationally, because of the limited number of hours that students can work in a typical week, the number of drivers required is far greater than usual, creating a need for far more recruiting and training hours than “traditional” transit agencies. Unitrans has a huge training element, particularly in the summer months to prepare for service each August/September.

Unitrans General Manager and staff regularly receive, review, and act appropriately upon performance and financial information. The GM and professional staff meet frequently with the key operations staff to ensure clear two-way communication between operations and management and that Unitrans's policies are implemented.

Unitrans conducts weekly managerial team meetings and a bi-weekly meeting of just the career managers. In addition, the entire team participates in the tri-quarterly rostering/bidding meetings. An annual retreat brings over one-third of all Unitrans personnel together to discuss key safety topics, service changes, and strategic planning.

Unitrans management prides itself on proactive identification of threats, opportunities and emerging issues. Unitrans strives to be out front on issues before a crisis develops. Perhaps due to lack of union membership in the operations section, as well as how “in-touch” with campus issues its array of student and career managers are, Unitrans is very nimble. Unitrans can make adjustments to changing environments quickly and efficiently.

5.2 Administration

Effective and appropriate administration allows an organization to run smoothly and reduces the opportunity for misappropriations. It also allows line managers to concentrate on their areas of responsibility without extraneous duties. The audit team reviewed key systems and procedures used to manage Unitrans’s finances, including examining of standard and special reports for the fiscal years covered by the Audits. Administrative functions include—

- Procurement;
- Budgeting/financial;
- Grants management;
- Risk management;
- Contract supervision; and
- Payroll.

5.2.1 PROCUREMENT

Unitrans benefits daily from the payroll and accounts payable/receivable support that is provided by the University/ASB. UCD's procurement practices are followed to obtain goods
and services needed (although most projects are done in house). Most fuel is obtained from PG&E (CNG, via pipeline) although diesel is purchased for the double-deckers under a blanket purchase order annually as needed. The process that Unitrans uses (procurements through University/ASB purchasing) is bureaucratic and slower than one might find at most public transit agencies (especially smaller agencies) which tends to extend project delivery times but also relieves Unitrans small professional staff of duties.

Figure 5-3: Unitrans Vehicles

5.2.2 BUDGETING

Budgets are prepared and established annually based upon projected funding available and the perceived needs of the University and community. The General Manager then monitors budget progress on a monthly and quarterly basis throughout the year, seeking to make adjustments when necessary.

5.2.3 GRANTS MANAGEMENT

Grants are applied for and managed by the Assistant GM of Administration, and overseen by the General Manager. The AGM of Administration works closely with SACOG to identify grants that Unitrans may qualify for, then works with the City of Davis to actually apply,
execute, and manage grants. The City of Davis is the direct grantee for FTA (Federal Transit Administration) funding and acts as a “pass through agency” for Unitrans. This requires a high level of cooperation between Unitrans and the City in obtaining and reporting on these important federal funds. No grant funding has been rescinded or otherwise lost by Unitrans during the Audit period.

5.2.4 PAYROLL

Payroll of the many student drivers is first organized and approved by the student payroll managers, then forwarded to the professional managers of their sections. It then goes to the General Manager, who approves all payroll including the managerial staff and enters approvals into KUALI, the UCD finance software system.

5.2.5 RISK MANAGEMENT

UCD risk management provides risk services to Unitrans. In another helpful partnership, Unitrans’ most significant capital projects (outside of bus procurement) are managed by the University's DCM (Design & Construction Management), an engineering group that does the design, contracting, construction management, and inspection for major projects such as the SILO and MU renovations, and the LED sign installations. The process that Unitrans uses (delivering capital projects via DCM) is bureaucratic and slower than one might find at many smaller public transit agencies. However, the ability to use DCM as a resource allows Unitrans to plan for and undertake more complex projects with less reliance upon (and funding required for) private consulting firms. DCM projects do tend to extend project delivery times but again provide relief to Unitrans small professional staff.
5.3 Service Planning

The planning of routes, schedules, and other service attributes determine if the service provided is appropriate to meet the transit needs within both the college community and the City of Davis. Unitrans does its own service planning and takes a highly proactive approach to planning and managing its service. Planning is assessed through a review of the short-range transit plan, long-range service plans, surveys, and on-going evaluation tools, such as monthly and annual reports. Service planning is an ongoing process that incorporates—

- Evaluation of routes;
- Strategic planning;
- Short-range planning;
- Planning for special transportation needs;
- Public participation; and
- Surveys of riders/non-riders.

5.3.1 EVALUATION OF ROUTES

Unitrans has an effective process for operations planning, monitoring, diligently identifying potential service changes, and working with the impacted stakeholders to evaluate options
and implement the optimal modifications. This successful service planning process (an average of over seven (7) service adjustments each year since 2000) has led to the robust growth of the system and its ridership since its inception in 1968 and exponentially since it was “opened to the public” in 1972.

Unitrans planning efforts are fortunate to benefit from a large amount of operational data gathered and produced by the NextBus (AVL – automated vehicle location) system. Unitrans can see passenger activity by the trip, by the bus stop, segments of trips, etc. This proves highly advantageous (assuming staff have time to mine the data) when dealing with crowding and on-time performance issues. Unitrans uses this fine-grained data to program its overflow “tripper” standby buses, adjust its interlines, and move time points to keep the system functioning and efficient.

Unitrans generally batches service changes into the annual August service change. Should changes be extensive enough to trigger a public hearing, based upon adopted standards for public noticing of changes, a public hearing will be held to solicit input.

5.3.2 SHORT-RANGE TRANSIT PLAN

Unitrans just completed work on a new Short-Range Transit Plan (SRTP) during the audit period, with the joint UNITRANS/CITY OF DAVIS SRTP completed in 2014. The Plan covers both the Unitrans system and the DCT program. The 2014 SRTP updates the 2005 SRTP goals, objectives and performance measures, and standards for the Unitrans system.

The 2014 SRTP update covers fiscal years 2014/15-2020/21 and provides policy and financial direction necessary for continued successful service implementation by Unitrans and Davis Community Transit.

At the local level, this SRTP update provided an opportunity to explore some key issues. In particular, the University of California Davis (UC Davis) announced its 2020 Initiative, a plan to add 5,000 more undergraduate students by 2020, with corresponding increases in graduate students, faculty, and staff. This SRTP plans for anticipated ridership and service increases associated with this projected campus growth, and operating and capital expenditures and revenues needed to support those service expansions.

At the regional level, the SRTP is a step towards implementing the METROPOLITAN TRANSPORTATION PLAN (MTP)/SUSTAINABLE COMMUNITIES STRATEGY (MTP/SCS), a regional long range planning document that provides a framework for transportation investments in El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba counties over a 20- to 30-year period. The MTP/SCS FOR 2035, adopted April 19, 2012, and updated February 18, 2016, calls for a significant increase in transit service and ridership to meet the growing transportation demand in the Sacramento region, and the recommendations suggested in this SRTP represent important steps in helping to realize the MTP vision.
The 2014 SRTP consists of six (6) chapters:

- **CHAPTER 1—INTRODUCTION** defines the SRTP and provides the objectives and focus areas of the Plan.
- **CHAPTER 2—PLANNING CONTEXT** provides a detailed overview of the study area, including the geographic location, community characteristics, demographic characteristics, and planned developments.
- **CHAPTER 3—FIXED ROUTE SERVICE ANALYSIS** provides information and analysis of Unitrans fixed route transit services and performance in the City of Davis over time.
- **CHAPTER 4—DEMAND RESPONSE SERVICE ANALYSIS** provides information about Davis Community Transit’s ADA/complementary paratransit services, analyzes system performance and productivity statistics, including an analysis of evening service and alternatives, and makes operational recommendations.
- **CHAPTER 5—STAFFING MARKETING** provides an overview of the current organizational structure staffing, and marketing efforts of Unitrans and DCT, with recommendations for future improvements.
- **CHAPTER 6—FLEET AND FACILITIES PLAN** inventories the current Unitrans and DCT fleet and facilities, provides a fleet replacement schedule, and plans for future facilities improvements.
- **CHAPTER 7—FINANCIAL ANALYSIS** analyzes alternative scenarios for Unitrans’ service growth, explains assumptions and makes projections for future operational and capital expenditures and revenues, explains the myriad sources of transit revenues, and provides additional recommendations for plan implementation.

Unitrans adopted a series of performance standards as part of the previous SRTP.

Table 5-1: Unitrans’ 2014 Updated Performance Measurement System (PMS) based on City of Davis Short-Range Transit Plan compares Unitrans’ performance in FY 14/15 with these adopted standards. Unitrans met or exceeded all standards, with two exceptions:

1. **Effectiveness/Reliability:** The standard for vehicle miles between road calls is 20,000 miles; the actual was 16,681 miles in FY 14/15.

2. **Efficiency/Cost Efficiency:** Operating costs escalated 9.4% (7.7% after inflation) due primarily to increases in the minimum wage.

3. **Efficiency/Cost Recovery:** Farebox recovery in FY 14/15 was 56.6% compared to the 60% objective; however, Unitrans still has a farebox recovery far above most other transit agencies.

4. **Accessibility/Capacity:** Unitrans uses as a capacity standard peak loading conditions not to exceed 150% of seats for 95% of bus trips and 90% of bus riders. Though Unitrans achieved 95% of bus trips in FY 14/15, the percentage of bus
riders at 88% was slightly below the standard. Crowding at peak times – typically around UC Davis class start and end times – has been a longstanding issue for Unitrans, especially in inclement weather when some people ride the bus instead of bicycling. Unitrans addresses crush load trips by using tripper buses or double decker buses where possible, but overcrowding still occurs at times. Although Unitrans seeks to label trippers and explain that they may not stop at all stops, complaints are still received from riders who arrive late at a stop and/or believe they have been passed up by a regular bus.
<table>
<thead>
<tr>
<th>Goal</th>
<th>Objective</th>
<th>Performance Measure</th>
<th>Standard</th>
<th>FY14-FY15 Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>Convenience</td>
<td>% of student dwelling units within 1/4 mile of transit stop</td>
<td>90%</td>
<td>Over 95% of all Davis residents are within 1/4 mile</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of major activity centers within 1/8 of transit stop</td>
<td>90%</td>
<td>93%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Peak-hour service frequencies for routes &gt;=60 pass/hour</td>
<td>15-minute service</td>
<td>G, J, V are &gt;60; all have 15&quot; frequency</td>
</tr>
<tr>
<td>Reliability</td>
<td>% within 5&quot; of scheduled time</td>
<td>90%</td>
<td>94%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of missed trips</td>
<td>&lt;1/day</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vehicle miles between road calls</td>
<td>20,000</td>
<td>16,681</td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td>Miles between preventable major accidents</td>
<td>100,000</td>
<td>290,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Injuries per 100,000 boardings</td>
<td>&lt;=1</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Safety meetings</td>
<td>Quarterly</td>
<td>Yes, quarterly meetings</td>
<td></td>
</tr>
<tr>
<td>Attractiveness</td>
<td>Annual ridership growth</td>
<td>&gt;= population growth</td>
<td>FY14 to 15: Ridership +1%</td>
<td>Student population +4% City of Davis population - 0.1%</td>
</tr>
<tr>
<td></td>
<td>Provide accurate and timely information</td>
<td>Schedules stocked on vehicles and thru community</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Efficiency</td>
<td>Cost Efficiency</td>
<td>Change in Op cost/rev hour</td>
<td>&lt;= CPI</td>
<td>FY14 to 15: Cost/hr +9.4% CPI +1.5%</td>
</tr>
<tr>
<td></td>
<td>Passengers per rev veh hr</td>
<td>40</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Individual route productivity</td>
<td>Consider changes if less than 15</td>
<td>H line &lt;15</td>
<td>Eliminated in FY16</td>
</tr>
<tr>
<td>Maintenance</td>
<td>% of PMs completed w/in 500 miles of scheduled</td>
<td>100%</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wash exterior and sweep interior</td>
<td>Ext. wash 2/week Interior: Daily</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Cost Recovery</td>
<td>% of annual cost from fares</td>
<td>60%</td>
<td>56%</td>
<td></td>
</tr>
</tbody>
</table>
Table 5-2: Unitrans’ 2014 Updated Performance Measurement System (PMS) based on City of Davis Short-Range Transit Plan (Continued)

<table>
<thead>
<tr>
<th>Goal</th>
<th>Objective</th>
<th>Performance Measure</th>
<th>Standard</th>
<th>FY14-FY15 Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integration/Coordination</td>
<td>Shared Facilities</td>
<td>Study feasibility of timed transfer terminal</td>
<td>Complete study</td>
<td>MU Terminal completed September 2014</td>
</tr>
<tr>
<td></td>
<td>Coordinate service and fares</td>
<td>Waiting times between buses at transfer locations</td>
<td>Local &lt;=10&quot; Regional &lt;= 20&quot;</td>
<td>Yes. Waiting times within standard; fares fully integrated</td>
</tr>
<tr>
<td></td>
<td>Paratransit coordination</td>
<td>Coordinate Unitrans service with ADA services</td>
<td>Ongoing coordination</td>
<td>Regular meetings with DCT and YCTD for coordination</td>
</tr>
<tr>
<td></td>
<td>Inclusion of transit w/general plans</td>
<td>Transit service considered in plans and development review</td>
<td>Ongoing coordination</td>
<td>Close coordination with City of Davis, UCD ORMP, and SACOG</td>
</tr>
<tr>
<td>Accessibility</td>
<td>Wheelchair lifts</td>
<td>% vehicles with lifts</td>
<td>100% of single-deck buses</td>
<td>100% of single-deck buses; 97% of trips; 97% of miles</td>
</tr>
<tr>
<td></td>
<td>Special needs</td>
<td>% known concentrations of senior and disabled residents with transit service</td>
<td>100%</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Capacity</td>
<td>Peak loading conditions not to exceed 150% of seats</td>
<td>95% of bus trips. 90% of bus riders on trips &lt;60</td>
<td>95% of bus trips. 88% of bus riders</td>
</tr>
<tr>
<td></td>
<td>Identify gaps</td>
<td>Meet w/ interest groups and respond to comments</td>
<td>Respond to requests; resolve w/in 6 months</td>
<td>Yes, requests also gathered at Unitrans Adv Comm and Unmet needs hearings</td>
</tr>
</tbody>
</table>
### 5.3.3 STRATEGIC PLANNING

The **SACOG Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS)** is the strategic planning document for all transit in the Sacramento area and just underwent an update in 2016.

By 2035, the **MTP/SCS** doubles total fixed route transit service compared to 2008 base levels. The plan includes a 98 percent increase in total daily vehicle service hours and calls for 53 percent of all transit services (bus and rail) to operate 15-minute or better service by 2035, up from 24 percent today. The **2016 UPDATE** recognizes the negative situation that transit operators have found themselves in since the Great Recession-driven service cuts and ridership loss that began in 2006 and continued through 2012. Climbing out of this “hole” is recognized by the modest call for transit service expansion between 2012 and 2020, compared with the aggressive targets after 2020 that still lead to the projections contained herein by 2035.

The **MTP/SCS** focuses transit investments especially in areas most capable of supporting robust transit service. Combining significant housing and employment growth in Transit Priority Areas (TPAs) with high-frequency service of 15 minutes or better in these areas allows the **MTP/SCS** to provide quality transit service to higher concentrations of people where it is most cost effective.

By 2035, according to the **MTP/SCS**, nearly 400,000 homes and over 600,000 employees will be located within TPAs, increasing the potential number and desirability of daily trips made by transit. SACOG identified several factors which guided the development of the **MTP/SCS** transit network:

- **Population and Job Density**—higher density corridors support more frequent transit service;
- **Mix of Use**—corridors with a mix of complementary land uses support use of transit during off-peak periods, especially midday and evening;
- **Income Demographics**—corridors with higher concentrations of lower income households generate higher demand for transit service;
- **Block Size/Street Pattern**—areas where the street pattern supports walking also support walk access to transit; and
- **Access to Job Centers**—locations with concentrations of employment generate potential for peak/commuter transit. Job centers where parking is normally paid out of pocket generate the highest levels of transit, carpooling, and non-auto modes of commute.

In addition to these primarily land use criteria, roadway improvements (including construction of new roadways and widening or reconstruction of existing roadways) will consider the utility of the roadway to multiple users, including vehicle drivers and...
passengers, transit vehicles, transit passengers, pedestrians, bicyclists, and commercial vehicles.

Increased operational efficiencies are a key aspect of the MTP/SCS in addressing the transit operations funding challenge. Existing transit services are assumed to continue while new transit investments focus on the corridors with more compact and mixed land uses that are most capable, encouraging increased ridership and supporting robust transit service.

Providing high-frequency service of 15 minutes or better in areas with more compact and mixed uses allows the MTP/SCS to provide more cost-effective and productive transit service. The result is a 72 percent increase in region-wide transit productivity over levels in the 2008 MTP. For transit, overall system productivity is usually measured by the passenger boardings per service hour provided.

The MTP/SCS identified almost all of the City of Davis, including UCD, as within an area to be targeted for transit service expansion and land use intensification. These “Transit Priority Areas,” or TPAs, are planned to help carry the region towards sustainability and yield the dramatic transit ridership increases projected in the MTP/SCS. That said, it is unclear how the nexus will be created between transit operations funding, and the MTP/SCS in order to provide Unitrans (and the regional transit providers that serve Davis, such as YoloBus and Fairfield/Suisun/Solano Express, and Amtrak) with the increased operating funds necessary to improve frequencies to 15 minutes on key lines, and attract more “choice” riders. The MTP/SCS creates a “vision” that funding hopefully will follow.

5.4 Scheduling, Dispatching, and Operations

Unitrans' day-to-day operations are critical to the success of the service. Through interviews with staff, review of driver paddles (schedules), and observation of operation and dispatch procedures, the Audit team assessed—

- Assignment of drivers;
- Vacation, absences, sick leave;
- Part-time and relief drivers;
- Vehicle assignments; and
- Current contractors.

Unitrans conducts its dispatching function at the operations and maintenance facility on Garrod Drive, just southwest of the main area of the UC campus. Unitrans’ dispatch currently relies upon NextBus technology for monitoring route performance, in addition to radio communication with drivers.
NextBus was introduced to the system in late 2009, and now is relied upon by both Unitrans and its customers to provide reliable bus location data. Unitrans has placed its NextBus arrival prediction tool prominently on the front page of its website, and the route level trip planner is very easy to use. NextBus also features free smart phone apps that provide the same arrival prediction tool and can be utilized anywhere in the system. Nextbus also generates operating data that enable Unitrans to fine tune its route schedules based upon recorded operating conditions.

Maintenance communicates with dispatch using a classic white magnet board to identify which vehicles are available each shift. Unitrans does its own blocking and runcutting, adapting industry standard best practices on vehicle blocking to its unique operating environment, in particular the prevalence of short operator shifts, with drivers often remotely signing on at one of the on-campus transfer centers. Unitrans utilizes interlining...
when it is advantageous, sometimes to avoid known heavy transfer activities, but mostly to help offset on-time performance challenges.

Unitrans student drivers are rostered during a shift bidding process at the beginning of each academic semester, and conducted three (3) times per academic quarter. Shifts are divided up into hour increments, covering the entire Unitrans service span. Based upon seniority, student drivers sign up for shifts that fit their class schedules, until all hour shifts are covered. Trading and exchanging of shifts is quite common, drivers have even created an online shift swap board, for finding cover for one's shift, or to pick up extra hours. It is the norm for a driver to have one (1) to three (3) hours of work per day, and multiple student bus operators will drive a given bus each block, with driver exchanges most commonly occurring at either Silo or MU transfer centers on campus. These locations are often the staging area for Unitrans' important overflow, or tripper buses. These overflow vehicles stage until needed, during predictable periods (often the top and bottom of the hour, right when classes end/begin on campus) where overcrowding or on-time performance issues are anticipated. The overflow buses then deploy to alleviate the crowding or to help get the regular vehicle back onto schedule.

Unique to Unitrans (at least in California) are conductors that accompany the bus operators on the five (5) double-decker buses. The conductors collect fares/verify passes and assist with passenger boarding and alightings on these heavily-used runs. The presence of the paid conductors does increase operating costs; however, the value gained by deployment of the uber-popular double-decker vehicles offsets the slight cost increase on these trips/blocks. Double-decker buses are deployed on the heaviest boarding routes during the busiest parts of the service day. Unitrans drivers that operate the double-decker buses undergo additional training including highway and Sacramento-based courses.

While Unitrans' newer Alexander Dennis double-decker coaches are fully accessible (at least the lower sections) the three (3) vintage London double-deckers are NOT accessible (entry on the street-side of coach, no lifts) so Unitrans must clearly identify when those vehicles are to be on the road. They are carefully deployed so that every other run on the Routes B, E, and F are covered by an accessible vehicle, so that no mobility device
passenger would have to wait more than one run, or less than an hour, for an accessible coach to arrive. The print schedule clearly denotes these runs of the vintage double-deckers, which are very popular in the community.

5.5 Personnel Management and Training

Unitrans’ personnel is its most important asset and has a direct impact on the quality and consistency of the service. The audit team reviewed personnel policies, wage and benefit scales, new and ongoing driver training syllabus, other training opportunities, turnover rates, and interviewed staff and management to determine the effectiveness of the personnel management. Included in the review are—

- Recruitment;
- Motivation;
- Training and safety; and
- Benefits.

Unitrans is able to access a constant pool of potential student drivers, and is frequently conducting new training classes for new recruits. Unitrans recruits through flyers around campus, campus job fairs, job boards within buildings, and a sandwich board outside the Unitrans admin office. The threat to Unitrans is not in the lack of able applicants, but rather in the constraints on getting enough drivers through training and licensing and the growing role of training on the current position of Supervisor of Training and Safety (see recommendation later in this report). Nearly all recruits lack transit experience, so the training program is critical to Unitrans’s success. There is no Affirmative Action goal per se, but Unitrans prides itself in having an employee base that mirrors the diverse campus demographic. By nature, Unitrans’ driver turnover rate is high, as graduating students are no longer eligible to continue driving.
Unitrans 100% part-time student operators are not organized and are not provided any benefits such as health insurance or retirement.

Unitrans has developed a thorough and detailed employee manual that governs many aspects of the employer-employee relationship and conveys Unitrans' policies, including discipline and drug and alcohol.

The very structure of the student employee system provides a strong motivational framework for employee success. Drivers that excel are then able to apply for supervisory positions in their second or third year at Unitrans. After that, student supervisors can apply to the student professional positions as they near graduation (payroll, marketing, planning, etc.), all of which are positives on their resume, come with higher pay rates, and expose them to different aspects of the transit industry.

Monthly safety meetings are conducted both in operations and maintenance divisions. Each summer, just prior to the return of classes, returning and new Unitrans drivers will go through refresher training, and the annual Unitrans Policy Quiz.

Unitrans employees are disciplined using a “strikes” system, where employees are given so many strikes before punitive action, up to and including termination, and strikes are assigned based upon the severity of the infraction. Safety mistakes are the least tolerated and garner the most strikes.

### 5.6 Marketing and Public Information

Keeping stakeholders informed and involved helps ensure the public is adequately served and has the necessary information to use and support public transportation. Relevant marketing, public outreach and operational support efforts were identified. Both special, short duration programs, as well as on-going programs, were included for the period of the Audit.

The audit team examined:

- Marketing and public information;
- Public involvement and input; and
- Intergovernmental communications.

Unitrans features an energetic public information and marketing program that produces attractive outreach materials, an informative website, and a large amount of information at bus stops. In recent years, Unitrans has successfully added a travel training program and real-time transit information. The NextBus real-time bus arrival system is prominent on the Unitrans website and soon will be at bus stops via LED signage at major terminals. NextBus has a popular smart phone application available through Apple’s App Store or Google Play, and many students use this product to efficiently ride the system.
Unitrans has installed two (2) LED signs. The first sign is located at the Amtrak Station, and second at the Art Building stop on Hutchison Drive. Six (6) more signs are ready to be installed at locations once electricity can be accessed. More descriptive LCD monitor displays are planned for the MU and Silo terminals, as part of new display cases that were recently installed.

The web page is simple but functional. Unfortunately, it does not have any branding, even the iconic double decker bus “logo” is missing. It has limited graphics. It has five (5) links at the top of the page:

- **Home** has a trip planner and link to Google Transit at the top of the page (this is on all pages). An application that provides NextBus information is further down to the left of the page. To the right is box, which displays “Service Announcements.” Below “Service Announcements” is “Title VI Civil Rights Notice” and “Contact Us.” The three (3) frames are on all pages.

- **Route Information** has links to system wide route map, Bus lines (by terminal). Hours of service, service calendar, special services, live map, and stop list.

- **Fares** details the various fare types and amounts.

- **News** shows the most recent item first and can scroll down to others or a reader may browse by Featured, Service Announcements, or Unitrans Archive.

- **About Us** provides a brief history and other information about Unitrans.

The agency has both a Facebook page and a Twitter account that it uses to communicate with riders.
Unitrans is viewed very positively in the community, and no doubt the long history of utilizing London-style double-decker buses in revenue service is a key component of Unitrans' image. The iconic red vintage double-deckers still dominate the “logo” and branding of the service, and Unitrans's 2010 addition of two new Alexander-Dennis double-decker high capacity buses wisely builds upon this marketing victory. This level of community awareness and support is a great achievement for any transit agency, especially for an agency with no professional marketing staff, and only 0.6 FTE of student marketing support. A review of Unitrans promotional materials demonstrates exceptional creativity, but some disconnect among the various pieces of advertising and collateral. The 2013 TRIENNIAL PERFORMANCE AUDIT called for a Marketing Plan that would both focus marketing efforts and also improve continuity year over year, as the student marketing staff cycle through.

Unitrans developed a **MARKETING MANUAL**, which provides a summary guide of the events and responsibilities of the Marketing Department of Unitrans. The Manual provides useful information to guide students who take on the marketing position. It includes—

- Information on the responsibilities of the position;
- Marketing accounts and passwords;
- Calendar of Annual events;
- Contact lists;
- Bus Schedule;
- Uni-Apparel;
- Procedures and “how to” for a number of common duties; and
- Other useful information.

It would be advantageous to build upon the Marketing Manual by the addition of marketing briefs to summarize each event or campaign that the student marketing staff attend or develop. This will aid in continuity over the years, as well as remind the student marketers of the lessons learned and ongoing projects undertaken in previous years (see later recommendation).

A “checklist” of required fonts, logos, and content would assist in ensuring that creative materials include these key Unitrans branding elements.

Telephone inquiries about Unitrans’ services are fielded at the Unitrans main office, located on the UC campus, as well as the many walk-up information requests that occur in the bustling area near the admin office. This also has the secondary benefit of protecting dispatch from all the general phone activity, so that dispatch can concentrate attention supporting drivers and the high level of driver exchanges that occur hourly at almost all times of the service day.

Unitrans tracks and responds to complaints, logs them based upon category, and tabulates them annually. Unitrans installed video and audio surveillance systems on all vehicles and this has helped with rider behavior issues.

A review of the Customer Service Call Log from 10/6/14 through 11/23/15 (just over 13 months) revealed that the number of complaints appear to be rising. As to be expected, the number of complaints appear to spike in September and October. In October 2014, there were 27 complaints registered compared to 46 in October 2015. In November, the number more than doubled from 10 in 2014 compared to 24 in 2015. Analysis by route and type did not show a definitive cause; however, a more detailed review of complaints may assist Unitrans staff in improving their service.

The top five (5) categories for the 13 month period are—

1. Driving (90);
2. Passed up (76);
3. Bus late (24);
4. Bus early (10); and

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1 Excludes “Commendations” but may include general comments.
2 “Other” category had 33, but since it involved a variety of different complaints it was not included.
5. Bus no show (10).

Performance data and marketing programs are reviewed by Unitrans staff to ensure that materials and campaigns are appropriate for their primary customer base (UC students) plus an ever-increasing focus on marketing to non-students in the Davis community.

Unitrans is participating in the City's Travel Training Program, and has been involved in teaching persons how to navigate the fixed route network.

5.7 Charters

Unitrans partners with ASUCD Specialized Transportation Services (STS) to operate limited charter services for UC Davis- and City-affiliated groups. In addition, STS operates the Tipsy Taxi program, which provides a safe ride alternative for UCD undergraduates on Thursday, Friday and Saturday nights.

Unitrans has developed a formal chartering policy, latest version dated July 2011 and follows this policy while conducting various incidental charter type operations. The policy follows FTA direction on noticing of the private sector prior to engaging in charter activities, and provides a mechanism for private sector transportation companies to file complaints. No charter complaints have been filed against Unitrans.

5.8 Maintenance

The quality of the maintenance program directly affects the quality of service and the value of the Unitrans rolling stock. We will use many of the same techniques in reviewing the maintenance records, policies, procedures, and records that we use in performing full maintenance audits and inspections. Areas of interest include—

- Preventive maintenance;
- Sufficiency of facilities;
- Vehicle condition;
- Repair conditioning;
- Parts management;
- Communication with dispatch;
- Outsourcing; and
- Third-party maintenance.

The Unitrans fleet currently consists of 48 revenue vehicles, including 41 full size coaches, five (5) double-decker buses, two (2) vintage vehicles from London, U.K., and two (2) cutaway shuttles. There are also nine (9) support vehicles. Most of the fleet runs on compressed natural gas (CNG), with the exception of the double-decker buses and the cutaways. While the current peak pullout is 36 revenue vehicles, Unitrans requires a large
number of spare vehicles due to the high volume of training that occurs nearly year-round, especially in the late summer.

Unitrans introduced 27 new buses to the Unitrans fleet in 2010: 25 traditional transit coaches (CNG New Flyer low-floors), and two (2) new Alexander-Dennis double-decker high-capacity buses, greatly improving fleet reliability. Unitrans’s Maintenance Manager is strategically deploying these 25 New Flyers in a manner that prevents them from all needing replacement at the same time in the future.

Revenue vehicles are cared for using a sophisticated preventative maintenance program, with varying intensity PMIs occurring every 3,000, 6,000, 18,000, 36,000, and 72,000 miles. On average, Unitrans buses put on between 20,000 and 25,000 miles annually.

A review of the CHP Terminal Inspections indicates the vehicles are well maintained. Though Unitrans had eight (8) violations (plus one driver records violation) in 2013, it had no violations in 2014 or 2015. Of the eight (8) vehicle violations, three (3) were on a single vehicle. Half of total eight (8) were due to missing labels or identification.

<table>
<thead>
<tr>
<th>Violation</th>
<th>FY 12/13</th>
<th>FY 13/14</th>
<th>FY 14/15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver Records</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Equipment Repairs</td>
<td>8</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Unitrans Maintenance Division also features a strong presence of student employees, although there are eight (8.75) career positions (four [4] mechanics) that report to the Maintenance Manager within the division, supported by 6.2 FTE part-time student employees, and a separate "support division" of 4.2 FTE that features all students and handles the bus washing and shelter cleaning duties. The following nine (9.75) full-time career positions are as follows:

- Maintenance Manager (1 FTE)
- Mechanics (4 FTE)
- Storekeeper (1 FTE)
- Shop Administrative Assistant (1 FTE)
- Maintenance Worker (1.75 FTE)
- IT Manager (1 FTE)
Unitrans has an extensive parts department within its Garrod Road Operations and Maintenance Facility. This critical facility, expanded in size in 2005 from three (3) bays to six (6), features a fueling station (CNG and Diesel), drive-through bus wash, in floor and portable lifts, a tire machine, and equipment for conducting heavy repair work such as engine and transmission overhauls.

Unitrans is now completing the replacement of two (2) of the in-ground heavy-duty vehicle lifts at the Garrod Road Facility. These lifts replace aging lifts that were beyond their useful lives.
Three (3) threats exist to the Garrod M&O facility:

1. The yard asphalt is failing in places and will need replacing;
2. The CNG fueling station needs replacing;
3. Removal of the existing underground diesel fuel storage tank is also needed. It will be replaced with an above-ground tank.

Warranty work is conducted on problems that arise with buses that are still under manufacturer's warranty. While most reimbursements are for parts only, all warranty jobs are tracked carefully and when appropriate, work is done in-house and the manufacturer will reimburse Unitrans for the maintenance labor. Almost all maintenance work is performed in-house, with the exception of paint which is routinely contracted out, due to the lack of a paint booth at the M&O facility.

In 2008 Unitrans conducted a formal fleet replacement plan in order to access some of the ARRA (Federal Stimulus) funding and the Maintenance Manager continues to follow this plan while preparing to refresh the plan in the near future.

Unitrans is very pleased with the performance and branding that the double-decker buses are delivering to the community, and is planning to purchase more in the near future. Unitrans has expended a significant and successful effort during the audit period on obtaining California Air Resources Board (CARB) approval to purchase diesel double-decker buses. This is because no double-decker buses are being manufactured with CNG engines in the North American marketplace. Years ago, Unitrans opted to choose the "Alternative Fuels" path when CARB mandated that all public transit agencies in the state dramatically
reduce their emissions by either choosing the clean diesel path or the alternative fuels path. As a side-effect of the “Alternative Path” choice, CARB regulations generally do not allow “Alternative Fuel Path” agencies to purchase any diesel vehicles without a waiver.

Fortunately, in 2015 CARB provided Unitrans with the required approval and Unitrans has since joined a joint procurement led by Alameda-Contra Costa Transit to purchase up to three (3) new double-deckers in the next few years.

Figure 5-15: Unitrans New Double-Decker Bus

Looking forward beyond the next purchase of diesel double-deckers, Unitrans’ fleet replacement approach relies upon continued purchase of double-deckers (which help also to allow Unitrans to stay at the Garrod Road M&O Facility deep into the future while deferring the costly expansion of the facility or creation of a satellite bus parking facility) and potentially electric buses. Electric bus technology has expanded rapidly during the audit period, and it is widely thought that the Unitrans service area (Davis, compact and relatively flat) will be an ideal operating environment for electric buses.

The upcoming Garrod Road Facility Pavement Rehabilitation project is being modified to include installation of electric bus charging infrastructure (conduits across the yard) where appropriate to support the future addition of slow-charging facilities at bays within the yard.
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6.0 FINDINGS & RECOMMENDATIONS

This section presents an overview of the issues and concerns identified through our audit process. It also outlines specific strategies and recommended solutions to address said issues.

6.1 Summary of Findings

1. Unitrans operates fixed route service throughout Davis on 17 separate lettered lines (A, B, C, etc.), plus two (2) limited service lines (S and T) that provide bell-time service to secondary schools in Davis. The majority of service is focused on connecting various student-cluster neighborhoods with the University of California at Davis (UCD) campus, but service is also provided throughout the city. Evening and weekend service is similar to weekdays, with modest deviations to better serve night activity centers.

2. Accomplishments and Changes during the Audit Period:

2.1. Operations

2.1.1. In August 2012 and 2013, numerous service changes were implemented.

2.1.2. Service changes were implemented in September 2014, timed with the start of the UC Davis fall quarter and the opening of the new Memorial Union bus terminal.

2.1.3. Unitrans worked with Yolo County Transportation District to pilot the concept of free fares in the spring of 2014.

2.2. Administrative

2.2.1. Title VI compliance program was approved by the City on July 2, 2014.

2.2.2. Unitrans management instituted quarterly reports with the City of Davis.

2.2.3. The implementation of the new UNI internal payroll system module.

2.2.4. Unitrans implemented a Twitter account to communicate with riders.

2.2.5. During the Audit period, Unitrans began work on a Procedure Manual.

2.3. Capital and Fleet

2.3.1. In Fall of 2013, two (2) significant projects in the Hutchison corridor on the UCD campus were completed.

2.3.2. In September 2014, the renovation, expansion, and modernization of the Memorial Union Terminal was completed.
2.3.3. In March 2014, Unitrans took delivery on three (3) New Flyer buses, which allowed retirement of older 1996 CNG buses.

2.3.4. Negotiated with the California Air Resources Board (CARB) to formalize ability to purchase and deploy diesel-powered double-decker buses in lieu of CNG double-decker buses, which are not commercially available.

2.3.5. Completed the Russell Blvd. ITS Project, working collaboratively with the City of Davis.

6.1.1 COMPLIANCE

3. Unitrans administers TDA laws and regulations in an efficient and effective manner and is in full compliance with TDA rules and regulations.

6.1.2 PRIOR AUDIT RECOMMENDATIONS

4. The prior 2013 audit had five (5) recommendations, one (1) has not been implemented, one (1) is in progress, two (2) have been implemented and one (1) is no longer relevant. means:

4.1. Complete the replacement of the Garrod M&O Facility's CNG fueling station; In Progress, the CNG Fueling Station is under design and a Request for Proposals (RFP) for equipment and installation is anticipated to be released in summer of 2016.

4.2. Evaluate Options for Expansion of Garrod Road M&O Facility or a Satellite Bus Parking Facility; No longer relevant, with the CARB approval of diesel powered double decker buses, the current facility will meet the yard needs in the foreseeable future.

4.3. Addition of a Second DMV-Certified Behind the Wheel Trainer Position; Partially Implemented, Unitrans employs part-time, DMV-certified ETP behind-the-wheel trainers.

4.4. Negotiate a Waiver from CARB and Purchase of Diesel Double-Decker Buses; Partially Implemented, The CARB waiver was obtained and Unitrans is in the process of purchasing more double-decker buses.

4.5. Create a Strategic Marketing Plan; Not Implemented, Unitrans staff has been reluctant to expend significant funding on a formal marketing plan.

6.1.3 PERFORMANCE MEASURES AND INDICATORS
5. Performance Measures (operating cost, fare revenue, vehicle service hours, vehicle service miles, passengers, and full-time equivalencies) are correctly calculated, tracked, and reported.

6. Due to its unique operating environment and solid management, Unitrans features exceptional performance across most TDA compliance measures.

   6.1. **Cost efficiency**: Unitrans continues to display efficient service delivery and remains one of the lowest cost-per-hour systems in the State, with an average operating cost per vehicle service of $56.88 per VSH over the Audit period.

   6.2. **Cost effectiveness**: Unitrans continues to be one of the most cost-efficient transit systems in California with an average operating cost per passenger of $1.19 during the Audit period.

   6.3. **Service effectiveness and productivity**: Even after expanding services during the audit period, Unitrans features a robust 47.64 passengers per VSH and 4.69 passengers per VSM average during the audit period. Unitrans remains extremely productive.

   6.4. **Labor productivity**: During this audit period, the dramatic gains in productivity enjoyed in the prior audit period declined slightly from a historic high of 810 in FY 11/12 to 792 VSH per FTE in FY 14/15.

   6.5. **Service efficiency**: Unitrans continues to enjoy one of the highest farebox recovery ratios in California and the nation, with an average ratio of 58.5% during the Audit period.

6.1.4 **FUNCTIONAL REVIEW**

7. **General Management and Organization**

   7.1. Unitrans is a unit of the Associated Students of UC Davis (ASUCD) and has been a primarily student-operated bus system beginning in 1968.

   7.2. The ASUCD Senate oversees Unitrans and adopts an annual budget for its operation.

   7.3. The Davis City Council, with support from UAC, oversees Unitrans in its adoption of an annual operating agreement and the submittal and approval of FTA grants for capital and operating funds.

   7.4. The Unitrans staff includes a total of 15 career permanent positions and over 200 part-time UC Davis student employees who work around their class schedules.

   7.5. Unitrans management prides itself on proactive identification of threats, opportunities, and emerging issues.
8. **Administration**

   8.1. Unitrans benefits daily from the payroll, risk management, procurement, and accounts payable/receivable support that is provided by the University/ASB.

   8.2. Budgets are prepared and established annually based upon projected funding available and the perceived needs of the University and community.

9. **Service Planning**

   9.1. Unitrans has an effective process for operations planning, monitoring, and working diligently to identify potential service changes and work with the impacted stakeholders to evaluate options and implement the optimal modifications.

   9.2. A new *SHORT RANGE TRANSIT PLAN (SRTP)* was completed in 2014.

10. **Scheduling, Dispatching, and Operations**

   10.1. Unitrans conducts its dispatching function at the operations and maintenance facility on Garrod Drive, just southwest of the main area of the UC campus.

   10.2. Unitrans' dispatch currently relies upon NextBus technology for monitoring route performance, in addition to radio communication with drivers.

   10.3. Unitrans does its own blocking and runcutting, adapting industry standard best practices on vehicle blocking to the unique operating environment (in particular the prevalence of short operator shifts), with drivers often remotely signing on at one of the on-campus transfer centers.

   10.4. Unique to Unitrans (at least in California) are conductors that accompany the bus operators on the five (5) double-decker buses.

11. **Personnel Management and Training**

   11.1. Unitrans is able to access a constant pool of potential student drivers, and is frequently conducting new training classes for new recruits.

   11.2. Nearly all recruits lack transit experience, so the training program is critical to Unitrans' success and nearly constant.

   11.3. Unitrans has developed a thorough and detailed employee manual that governs many aspects of the employer-employee relationship and conveys Unitrans' policies, including discipline and drug and alcohol.

12. **Marketing and Public Relations**

   12.1. Unitrans marketing is managed by a (0.2 FTE) student marketing manager. The marketing function is allocated 0.6 FTE total and has annual turnover.

   12.2. Unitrans website is functional, but lacks any branding or graphic appeal. Unitrans makes use of Twitter and Facebook.
12.3. Individual marketing pieces are creative and target the largest rider base, students, but lack the focus of consistent branding and no strategies appear in place for appealing to other target markets.

12.4. Unitrans **MARKETING MANUAL** provides procedures, but lacks guidelines.

13. Charters

13.1. Unitrans’s charter policy follows FTA direction on notifying the private sector prior to engaging in charter activities, and provides a mechanism for private sector transportation companies to file complaints.

14. Maintenance

14.1. Unitrans Maintenance Division also features a strong presence of student employees.

14.2. The Maintenance Department employs nine (8.75) career positions (four [4] mechanics) within the division, supported by 6.2 FTE part-time student employees, and a separate "support division" of 4.2 FTE that features all students and handles the bus washing and shelter cleaning duties.

14.3. The Garrod M&O facility has three (3) major problems:

- The yard asphalt is failing in places and will need replacing;
- The aging CNG fueling facility needs replacing;
- The underground diesel fuel storage tank needs replacing, an above-ground facility will be the preferred result.

6.2 Recommendations

**RECOMMENDATION 1: CNG Fueling Station**

Upgrade the Unitrans' fueling facility at Garrod Road to include a new CNG fueling station.

**Condition**

This is a carryover recommendation from the prior audit, and is being separated out from other Garrod Road capital projects as it is already in design. The current CNG Fueling Station is beyond useful life and no nearby alternative facility available.

**Proposed Solution**

The University’s DCM Office has already completed the design of the new CNG Fueling Station and is preparing the bid specifications for the procurement. It is hoped that the contract will be awarded in 2016 and construction completed by 2017.
RECOMMENDATION 2: M&O Facility

Upgrade Unitrans’ Garrod Road M&O Facility.

Condition

This is also a carryover recommendation from the prior audit. This is being separated out from the replacement of the CNG Fueling Station (see above) for timing issues. The Garrod Road M&O Facility paving is beginning to fail. In addition, the underground diesel tank is beyond useful life. As this project developed during the last audit period, electric bus technology surged forward in the transit industry. This project is now being modified to include installation of electric bus charging infrastructure (conduits across the yard) where appropriate to support the future addition of slow-charging facilities at bays within the yard. Since Unitrans is seriously considering adding electric buses in the near future, it would be appropriate to install conduit at time of pavement rehab.

Proposed Solution

From a timing and efficiency standpoint, the optimal time for the underground electrical infrastructure installation is at the time of the pavement reconstruction. The new, above-ground diesel storage tanks are necessary to accommodate the existing and near-future sub-fleets of diesel double-deckers buses. Upgrade Unitrans’ Garrod Road M&O Facility by repaving the bus yard, replacing the diesel-fuel storage tanks with new, above-ground tanks, and potentially installing infrastructure for future electric bus charging equipment will allow Unitrans to meet its short term and long term needs.

RECOMMENDATION 3: Training and Safety

Split the Safety and Training Supervisor position in to two (2) career positions: One dedicated to training and one to safety.

Condition

This recommendation was implemented from the prior audit with part time staff, but is now recommended to be addressed by a full-time position. Safety and training duties fall under a single staff position. The Safety and Training Supervisor is responsible for—

- Developing and implementing training programs for new bus drivers, refresher training and training upgrades;
- Supervising all phases of training, including bus operations, safety procedures, customer service procedures and Unitrans policies and procedures.
- Overseeing all behind-the-wheel training;
- Supervising Assistant Driver Trainers;
Findings and Recommendations

- Managing all areas related to safety, including handling accident investigations and safety related complaints;
- Evaluating bus driver performance and providing feedback in order to improve overall job performance; and
- Monitoring compliance for California Highway Patrol and Department of Motor Vehicles annual audits.

Unitrans’ unique student driver model results in continual turnover and results in a constant need for training and safety. Unitrans employs over 150 part-time student drivers and trains approximately 100 new bus drivers annually. Unitrans' ability to expand (and even maintain previous) service levels is dependent upon the ability to continue near constant driver training in an efficient manner. With new FTA emphasis on safety going forward, managing both critical tasks (safety and training) would be more than one full time equivalent can effectively handle.

Proposed Solution

Splitting the duties currently performed by the Manager of Safety and Training would allow one position to concentrate on training and one to focus entirely on safety. This may mitigate the need for Unitrans to continue the use of part-time DMV-approved ETP BTW Trainers. Part of this is having onsite DMV behind the wheel (BTW) ETP training where Unitrans’ DMV approved Trainer is able to conduct the critical driving tests quickly at the Unitrans facility and around Davis. Since 2013, Unitrans has obtained this service by hiring qualified graduated Unitrans drivers and having them obtain DMV ETP certification. The addition of the new Supervisor of Training position (dedicating the former Supervisor of Training and Safety position to Safety) may or may not supplant the part time ETP BTW trainers. The recent emphasis at the FTA level on safety requires that this additional position be added in order to ensure that Unitrans is able to both comply with FTA safety requirements AND meet its vital and near-constant bus driver training needs.

RECOMMENDATION 4: Double Decker Buses

Work with funding partners such as SACOG to purchase new double decker buses through the options with the Alameda-Contra Costa (AC) Transit District purchase contract.

Condition

Unitrans’ most popular and highly efficient vehicles are the double-decker buses, both the vintage vehicles from the U.K., and the new Alexander Dennis modern buses introduced recently. The double-decker buses are not only an iconic branding tool for Unitrans, but a practical solution to heavy passenger loads. In addition, they take up less room in the Garrod Road yard, allowing Unitrans to defer a new satellite bus parking yard or expansion of Garrod Road via property acquisition.
Unitrans has expended a significant and successful effort during the audit period on obtaining California Air Resources Board (CARB) approval to purchase diesel double-decker buses. In 2015 CARB provided Unitrans with the required approval.

Proposed Solution

Alameda-Contra Costa Transit (AC Transit) released a Request for Proposal (RFP) for 10 42 ½-foot double decker buses with an option for 10 additional buses. Unitrans has joined in this joint procurement led by AC Transit for an option of up to three (3) new double deckers. The responses were due March 1, 2016. It is expected that the double deckers will cost approximately $850,000 to $900,000 each and will take 12 to 18 months for the new buses to be manufactured and delivered, so at the earliest it will be mid to late 2017 before the new double deckers could be put in service. Unitrans should immediately assemble the funding to exercise its three (3) available purchase options (from the AC Transit procurement) as soon as possible.

RECOMMENDATION 5: Marketing

Augment the Marketing Manual with marketing guidelines to ensure integrity of the Unitrans brand and consider using briefs for marketing activities to help measure effectiveness.

Condition

The marketing is handled by student staff with frequent turnover. While the marketing is often very clever and distinct, there seems an overall lack of focus and continuity, as one might expect from different staff each year. Marketing materials, including the Unitrans website, fail to include key branding facets, such as double decker “logo”, colors, etc. The lean student marketing staff could use more guidance on effective marketing techniques.

Unitrans developed a Marketing Manual, which outlines basic procedures for marketing activities, but lacks basic marketing guidelines. As a result, the position does not provide the opportunity to learn how to apply the fundamentals of marketing and Unitrans positioning and branding fluctuates year to year.

A review of recent marketing materials were mostly to inform riders of service changes. Few examples promoted the service, particularly for non-student riders. There seems to be a lack of focus on various market segments in the community. While the number of these riders is much smaller than UCD student riders, increasing the number of users for the town could provide an additional rider base for lower ridership lines in the City of Davis.

Proposed Solution

Marketing Guidelines should include the following:

- **Introduction** – Who are you? Why are you here?
- **Audience** – Who are you talking to?
Findings and Recommendations

- **Fonts** – What are they? How do you use them?
- **Colors** – What are they? Include Hex, CMYK, RGB and PMS. How should they be used?
- **Logo** – Size and placement. Show us all the versions of your logo: With and without taglines, full color, black and white, black, white, word mark only and logo mark only.
- **Icons** – What does your system of icons look like?
- **Imagery (Photography and Illustration)** – What style photography do you use? What do you avoid? What is your illustration style? How do images and illustrations work together?
- **Tone and Voice** – What do you sound like? What tones do you avoid?
- **Mascot** – Do you have one? How and when do you use it?
- **Value Proposition** – What one important value do you promise to your customers?
- **Business System** – What do your letterhead, business cards and envelopes look like?

The Unitrans website, while functional and scalable for mobile viewing, lacks the Unitrans branding and is not graphically appealing. Once the marketing guidelines are established, the website, along with Facebook page and Twitter account should be updated to establish the brand.

A marketing plan, which outlines the branding, positioning, and target markets, as well as strategies, tactics, programs, campaigns, and budget for the year is usually recommended to ensure that the marketing is focused on getting the desired results. The marketing plan can be a simple two (2) page overview or a detailed document. However, a marketing plan is only useful to the extent that it is done and followed.

Staff has not indicated a willingness to proceed with a full marketing plan. An alternative is marketing briefs. Though not a substitute for a marketing plan, the brief structures a specific marketing program or project. The brief should include—

1. Project Name;
2. Objective;
3. Target Market
4. Strategies (Branding, Positioning, and program specific);
5. Tactics (Message and Media, Tone and Mood);
6. Schedule and Budget; and

The evaluation is one of the most important aspects of a marketing program. There are three (3) important keys to the evaluation component: (1) the mechanism must be structured to measure the objective of the program; (2) the mechanism must be put in place during the planning stage before initiating the program; and (3) the mechanism must be specific, quantifiable, and trackable to measure the results achieved.
RECOMMENDATION 6: ITS/TSP Corridors

Expand the successful Russell Blvd ITS/TSP project to additional corridors.

**Condition**

On-time performance continues to be one of the main passenger complaints. Transit Signal Priority (TSP) can provide Unitrans with OTP relief at a very low cost.

Unitrans has recently completed the Russell Blvd. ITS/TSP Project, working collaboratively with the City of Davis. The Project deployed transit signal priority (TSP) at several intersections along Russell (between Arthur and E) Blvd, including the intersection most used by Unitrans into and out of the Memorial Union Terminal. The collaborative project also upgraded pedestrian and bicycle infrastructure and signal controller equipment. All Unitrans buses were equipped with infrared TSP emitters to communicate with the new intersection technology.

**Proposed Solution**

Unitrans and the City of Davis have discussed duplicating the elements of the Russell Blvd. project to other appropriate corridors around town. The Richards/Cowell corridor which experiences high levels of congestion and features robust Unitrans service, appears to be highly suitable for this technology. Transit Signal Priority (TSP) will improve operations for Unitrans along Richards/Cowell, which will provide benefits to the entire system.
<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Responsibility</th>
<th>Timeframe</th>
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</thead>
<tbody>
<tr>
<td>1. Upgrade the Unitrans' fueling facility at Garrod Road to include a new CNG</td>
<td>Transit General Manager with Maintenance Manager</td>
<td>FY 16/17, 17/18</td>
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<tr>
<td>fueling station.</td>
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<tr>
<td>2. Upgrade Unitrans' Garrod Road M&amp;O Facility.</td>
<td>Transit General Manager with Maintenance Manager and Transit Systems Manager</td>
<td>FY 17/18, 18/19</td>
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<tr>
<td>3. Split the Safety and Training Supervisor position into two (2) career</td>
<td>Assistant General Manager, Operations</td>
<td>FY 16/17</td>
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<td>positions: One dedicated to training and one to safety.</td>
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<tr>
<td>4. Work with funding partners such as SACOG to purchase new double decker</td>
<td>Transit General Manager</td>
<td>FY 17/18, 18/19</td>
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<td>buses through the options with the Alameda-Contra Costa Transit District</td>
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<td>purchase contract.</td>
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<tr>
<td>5. Augment the <em>Marketing Manual</em> with marketing guidelines to ensure integrity</td>
<td>Assistant General Manager, Administration</td>
<td>FY 16/17</td>
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<tr>
<td>of the Unitrans brand and consider using briefs for marketing activities to</td>
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<td>help measure effectiveness.</td>
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<tr>
<td>6. Expand the successful Russell Blvd ITS/TSP project to additional corridors.</td>
<td>Transit General Manager with Maintenance Manager</td>
<td>FY 16/17, 17/18</td>
</tr>
</tbody>
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