



Agenda Item No. 3

METROPOLITAN
TRANSPORTATION
COMMISSION

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Memorandum

TO: Operations Committee

DATE: September 2, 2011

FR: Executive Director

W.I. 310-2776

RE: Options for Clipper[®] Expansion

Program Update

For the week ending August 19, average weekday transaction volume was 488,000. Clipper[®] transaction volume growth appears to have leveled off during July and the first part of August. Nonetheless, two major accomplishments were achieved: Clipper[®] transaction volumes reached a new high of 502,000 on August 18; and (2) Muni completed a smooth transition of the Muni Youth Monthly Pass to Clipper[®]-only (in August 7,345 Youth Passes were sold on Clipper[®]).

Since early August, cable car conductors have been using new handheld Clipper[®] card readers, allowing cable car riders to pay their fare using the cash value on their Clipper[®] card, as well as pick up fare products they have ordered. Previously, only Muni monthly passholders could use Clipper[®] on the cable cars.

The installation of Clipper[®] Add Value Machines at three Caltrain stations—4th and King, Palo Alto, and San Jose Diridon—is scheduled for September. These machines will make it convenient for Caltrain customers at these busy stations to add value to their Clipper[®] cards.

Work on an update to MTC Resolution 3866 (the Regional Transit Coordination Plan) continues, in anticipation of presenting the update to this Committee next month. The public comment period on the proposed changes to the Resolution ends September 9th.

Clipper[®] Implementation Options for Remaining Operators

Background

Staff has prepared the attached Powerpoint presentation describing the implementation options for operators not yet participating in Clipper[®]. We are in the final stages of completing the deployment of Phase II (AC Transit, Golden Gate, BART, Caltrain, SFMTA, VTA and SamTrans). Collectively, these Phase II Operators account for more than 95% of transit ridership in the region. However, the Clipper[®] Contract contains a third implementation phase for the remaining transit agencies. Per the Contract, Phase III includes the following operators:

- 101 Corridor: Santa Rosa CityBus, Sonoma County Transit, Marin Transit, Petaluma Transit, Healdsburg Transit, Cloverdale Transit
- East Bay Operators: County Connection, Tri-Delta Transit, Wheels (LAVTA), WestCAT, Union City Transit
- Ferry: Oakland/Alameda, Harbor Bay, Vallejo Baylink, South San Francisco
- Solano and Napa Counties: SolTrans, Fairfield and Suisun Transit (FAST), Napa VINE, Vacaville City Coach, Rio Vista, Delta Breeze

Proposed Approach

A key challenge we face in moving forward with Phase III is to define a strategy that contains cost. While completing Phase III realizes our vision of true connectivity, these 20 plus transit agencies account for only about 5% of the transit ridership. As a result, MTC will apply two primary “lessons learned” from Phase II to the Phase III expansion:

Lesson Learned	Mitigation Strategy
1. Implementing a new Clipper [®] operator requires significant resources, and is somewhat independent of the size of the agency	Phase III agencies to be combined into four groups (101 Corridor, East Bay, Ferry, and Solano/Napa Counties). Each group will be treated as a single Clipper [®] Operator. Fewer Clipper [®] operators will contain costs and increase confidence in the implementation schedule.
2. Wholesale adoption of existing fare policies have complicated the Phase II implementation and considerably lengthened the schedule	Phase III agencies will be required to revise existing operations and fare policies to conform to a standardized set of business rules. This standard set of rules will simplify the implementation for the Clipper [®] operator (lower cost and shorter implementation timeframe) and reduce customer confusion and calls to the Clipper [®] call center.

To identify the order for roll out, MTC evaluated each agency and group using four criteria: (1) Reaches the most riders; (2) Connects to existing Clipper[®] operators; (3) Minimizes implementation complexity; and (4) Availability of external funding. Additionally, MTC considered several challenges and constraints that could impact the roll out order, including limited availability of existing Clipper[®] equipment for buses, limited funding, and competing capital projects. The Clipper[®] program currently has a limited inventory of Clipper[®] devices for buses available (already purchased by MTC and stored in MTC’s warehouse). However, implementation of all Phase III bus operators will require a higher quantity of devices than are currently available. The Clipper[®] Contractor recommends upgrading to newer technology bus devices; however, these devices will not be available for at least one year, and procuring additional existing Clipper[®] devices will require a similar duration. Given the constraints, MTC is considering the following roll out options:

	Operator Group	Description	Impacts/Risk
Ferry			
1	Proceed with Ferry Implementation Now	Implement devices on ferry services that are different from bus operators (called CID 2s). New service (Oakland to South San Francisco) starts in Jan 2012	There are sufficient device quantities in MTC warehouse for ferry needs. Water Emergency Transportation Authority (WETA) has agreed to pay for its implementation. Delaying implementation will negatively impact opening of South San Francisco service in Jan 2012
Bus Operators			
Option 2A	First: Solano and Napa Counties Second: East Bay Third: 101 Corridor	Implement Solano and Napa Counties with existing equipment; sufficient existing equipment quantities available Implement East Bay with next generation equipment, as technology is ready and funds become available Implement 101 Corridor with next generation equipment as funds become available	Maintains device inventory for existing Phase II operator fleet expansions Implementation for Solano and Napa may be more complex due to zone-based systems Implementation for second and third groups dependent on availability of additional funding and new equipment
Option 2B	First: East Bay Second: Solano and Napa Counties Third: 101 Corridor	Implement East Bay with existing equipment; can proceed as soon as change order is developed Implement Solano and Napa Counties with next generation equipment, as funds become available Implement 101 Corridor with next generation equipment	Insufficient existing equipment quantities available; must reprioritize equipment currently allocated to other capital projects Will not have device inventory for existing Phase II operator expansion Implementation for second and third groups dependent on availability of additional funding and new equipment

MTC discussed the proposed roll out options with the operators on August 29 and is awaiting feedback from operator staff.

Next steps

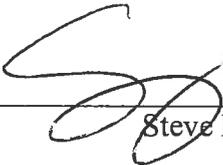
MTC staff recommends proceeding with the Ferry implementation now due to the launch of the new South San Francisco service in the near future. The work will be paid for by WETA. The request for Committee approval of the Cooperative Agreement and Change Order for the Clipper® Contractor is included in the next agenda item.

Additionally, we will coordinate with the Phase III operators to obtain feedback on the bus implementation options to determine the preferred roll out, distribute details on standardized

business rules and support operators with fare policy implementation, and determine equipment required for expansion.

At the same time, we will work with the Clipper[®] Contractor on the next generation devices and determine the impacts on operations and maintenance of the Clipper[®] system. Once the operator coordination is completed, MTC will prepare a change notice to the Clipper[®] Contractor for the first group of bus operators.

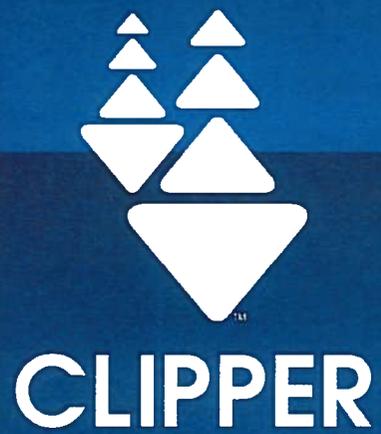
MTC staff will provide future updates to the Committee to recommend the preferred option for bus roll out, finalize funding strategy, and obtain approval for the change orders required to implement the remaining Phase III operator groups.



Steve Heminger

SH:BG

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Clipper[®] Implementation Options

for Operators Not Yet Participating in Clipper (Phase III)

August 29, 2011

Phase III implementation was deferred due to funding concerns and resource limitations

- Funding volatility and potential insufficient funds
- Resources were devoted to complete Phase II deployment and to stabilize current operations
 - Fare media transitions to Clipper (ongoing)
 - System operations improvements
 - Capital expansion



Phase II implementation was costly and prone to delays

- Phase II implementation spanned over 6 years
- Unique implementations for each Phase II agency created inefficiencies as the system expanded
- Replicating all legacy fare products and policies on Clipper® complicated system design, extended implementation schedules, and confused customers

Lessons learned from Phase II will be applied to Phase III expansion

- Implementing a new Clipper operator requires a significant commitment of resources from both Cubic and MTC
- Wholesale adoption of existing fare policies into Clipper have complicated Phase II implementations
 - Current system includes over 4,000 unique fares, 100 fare products, and 12,000 recognized transfers
 - Complex business rules are difficult for patrons to understand

Phase III agencies will be combined into four groups and each group will be a single Clipper® operator

- Implementing a group of agencies as a single Clipper® operator should contain costs and increase confidence in the implementation schedule
 - Each operator group will have a simplified set of business rules that will include all agencies within the group
 - The Clipper® system will perform financial settlement for each operator group
 - The distribution of funds among agencies in each group will need to occur outside of the Clipper® system

The four Clipper[®] operator groups will be based on geography

101 Corridor Operator	East Bay Operator	Ferry Operator	Solano and Napa County Operator*
Santa Rosa CityBus	County Connection	Oakland/Alameda	SolTrans
Sonoma County Transit	Tri-Delta Transit	Harbor Bay	Fairfield and Suisun Transit (FAST)
Marin Transit	Wheels (LAVTA)	Vallejo Baylink	Napa VINE**
Petaluma Transit	WestCAT	South San Francisco	Vacaville City Coach
Healdsburg Transit	Union City Transit		Rio Vista Delta Breeze
Cloverdale Transit			

* Dixon Transit is a dial-a-ride service which is not compatible with Clipper[®]

** Napa VINE includes American Canyon Transit, St. Helena Shuttle, Calistoga HandyVan, and Yountville Trolley



Agencies will be required to revise existing operations and fare policies to conform to a standardized set of business rules for Clipper®

	Existing	Clipper®
Fare Policy	Flat Fare, Distance-Based, Zone-Based	Flat Fare Single Tag
Routes	Unique Routes	Fare Types (i.e. Local, Express)
Products	Day Pass, Rolling Pass, Calendar Pass, Ridebooks	Single Calendar Pass (per operator group)
Transfers	Existing transfer agreements (paper transfers)	Revised, simplified transfer agreements (electronic transfers)
Fare Payment Methods	Cash, Paper Transfers, Products	Clipper® E-cash, Clipper® Transfers, Clipper® Calendar Pass
Financial Reconciliation	Individual agency settlement	Settlement to an operator group account, revenue sharing with other agencies in group
Reports	Internal agency reports	Aggregated reports for each operator group

MTC established implementation priorities using the following four weighted criteria

- Reaches the most riders
 - Average weekday ridership
 - Clipper's target population (e.g., pre-paid fare product holders, commuters, regional riders)
- Connects to existing Clipper operators
 - Services that connect to existing operators
 - Regional transit hubs in service area
- Minimizes implementation complexity
 - Existing fare structures that correspond well with streamlined fare offering
 - Existing policies aimed at a regional coordination
- Design a budget-conscious expansion strategy
 - Use of available external funding

Operator groups were evaluated in each of these areas (refer to appendix for details of evaluation)

From MTC's initial evaluation, operator groups would be rolled out in the following order

- **First - East Bay**, because its agencies serve the most riders and have high connectivity to existing Clipper operators
- **Second - Ferry Service**, because of high connectivity to existing Clipper operators, minimal implementation complexity, and available funding; and **Solano and Napa Counties**, because of high connectivity to ferry service and East Bay transit hubs, and available funding
- **Third - 101 Corridor**, due to limited ridership and connectivity

However, several challenges and constraints may alter the proposed roll out order

Phase III implementation must consider limited program resources

- Limited quantities of existing Clipper® equipment for buses
- Limited funding
- Undetermined impact on future operations and maintenance costs
- Limited staff resources (MTC and contractor)
- Competing capital projects (impacts available equipment quantities)
 - BART add fare machine integration
 - BART ticket vending machine upgrade (vending of cards)
 - BART expansion (OAC and South Bay)

These challenges have the potential to limit full execution and order of the Phase III roll out

Given our constraints, MTC is considering a revised roll out strategy

	Description	Consequences/Risks
(1)	<ul style="list-style-type: none"> Implement Ferry Services <ul style="list-style-type: none"> – Uses different equipment, with sufficient quantities available in MTC warehouse 	<ul style="list-style-type: none"> Delay implementing will negatively impact opening of S. SF terminal service in Jan 2012
(2A)	<ul style="list-style-type: none"> Implement Solano and Napa Counties first with existing equipment Implement East Bay operators as pilot for next generation equipment, as funds become available Implement 101 Corridor with next-generation equipment 	<ul style="list-style-type: none"> Currently have sufficient supply of existing bus equipment for Napa/Solano Implementation for Solano and Napa Counties may be more complex than East Bay due to zone-based systems Maintains device inventory for existing Phase II operator fleet expansions
OR		
(2B)	<ul style="list-style-type: none"> Implement East Bay first with existing equipment Implement Solano and Napa County operators as pilot for next generation equipment, as funds become available Implement 101 Corridor with next-generation equipment 	<ul style="list-style-type: none"> Insufficient bus equipment quantities available for East Bay; will also require reprioritizing equipment currently allocated to BART expansion and other competing projects Will not have device inventory for existing Phase II operator expansion

Additional capital funding will need to be secured regardless of option selected

Next Steps

1. Proceed with Ferry implementation
 - Obtain approval from MTC Commission for ferry change order
2. Coordinate with bus operators
 - Determine preferred roll out for bus operators
 - Distribute details on standardized business rules
 - Support operators with fare policy implementation
3. Continue discussions with Cubic
 - Determine bus equipment procurement strategy
 - Prepare change notice for first group of bus operators
 - Determine impacts on operations and maintenance
4. Periodic check ins with MTC Commission
 - Return with recommended roll out strategy for bus operator
 - Finalize funding strategy

Appendix



CLIPPER

101 Corridor

Reaches the most riders

- 113K projected monthly Clipper ridership
- 91% (103K) of ridership on two operators (Santa Rosa CityBus and Sonoma County Transit), but don't serve Clipper's target population
- Golden Gate Transit already operates 85% of Marin Transit's service
- Marin Transit, Petaluma, Healdsburg, and Cloverdale have relatively low ridership

Connects to Existing Operators

- Golden Gate Transit only
- 2 Regional Hubs (San Rafael Transit Center, Santa Rosa Transit Center)

Ease of Implementation

- + Sonoma County has regional fare products and policy
- Sonoma County has a zonal-fare system, which may be challenging to convert to flat-fare
- Marin Transit has expressed interest in being implemented on Clipper® as an expansion of the Golden Gate Transit fleet, but Marin Transit products would require significant changes to current GGT Clipper® operations

Can Contribute Local Funds

- Marin Transit has stated they would support capital investment to join Clipper®

101 Corridor operators have low projected Clipper ridership, limited connectivity, and may be difficult to implement



East Bay

Reaches the most riders

- 420K projected monthly Clipper ridership
- 3 of the top 4 largest Phase III operators are in the East Bay (County Connection, Tri-Delta Transit, LAVTA/Wheels)
- All Union City Transit routes connect to BART, AC Transit, and Dumbarton Express
- East Bay operators serve Clipper's target population

Connects to Existing Operators

- AC Transit, BART, Golden Gate Transit, SFMTA, SamTrans
- 5 Regional Hubs (Dublin/Pleasanton BART, Pleasant Hill BART, El Cerrito Del Norte BART, Richmond Amtrak/BART, Transbay Terminal/Montgomery BART)

Ease of Implementation

- + WestCAT, County Connection, Tri-Delta, and LAVTA have a common fare pass and revenue sharing agreement, minimizing fare policy complexity
- + May minimize complexity to implement Union City Transit as an expansion of the AC Transit fleet

Can Contribute Local Funds

- No known external funding available

East Bay BART connectors are projected to have the highest potential transaction volume and high connectivity to current operators



Ferry Services (WETA)

Reaches the most riders

- 40K projected monthly Clipper ridership
- Ferry routes serve Clipper's target population

Connects to Existing Operators

- AC Transit, BART, SFMTA, SamTrans, Golden Gate Ferry/Transit
- 2 Regional Hubs (SF Ferry Terminal, Vallejo Ferry Terminal)
- Complementary Vallejo BayLink Express Bus Service currently operated by SolTrans; BayLink Ferries would need to be implemented concurrently with SolTrans

Ease of Implementation

- + WETA is a new operator with no legacy fare system for the new South San Francisco route (service to start in January 2012)
- WETA's fare policy does not conform to the proposed Clipper fare offering, but WETA's unique operating environment make flat-fares infeasible

Can Contribute Local Funds

- WETA is willing to pay for its Clipper implementation

Ferry expansion is projected to have low transaction volume but has high connectivity with current operators



Solano and Napa Counties

Reaches the most riders	<ul style="list-style-type: none"> • 133K projected monthly Clipper ridership • 94% of riders are on 3 operators (Soltrans, FAST, Napa VINE), and serve Clipper's target population • Vacaville City Coach and Rio Vista Delta Breeze have relatively low ridership
Connects to Existing Operators	<ul style="list-style-type: none"> • BART, AC Transit, Golden Gate Transit • 6 Regional Hubs (Vallejo Ferry Terminal, Napa Intermodal, Fairfield Transportation Center, Santa Rosa Transit Center, Pleasant Hill BART, El Cerrito Del Norte BART)
Ease of Implementation	<ul style="list-style-type: none"> + Merger of Vallejo Transit and Benicia Breeze into SolTrans is an initial effort at regional consolidation - FAST, SolTrans, and Napa VINE have a zonal-fare system, which is challenging to convert to flat-fare
Can Contribute Local Funds	<ul style="list-style-type: none"> • FAST, and Vacaville City Coach have approximately \$600K and \$115K, respectively, to support Clipper implementation, which must be drawn down by September 2015 • Napa VINE has programmed over \$1M for new Clipper®-compatible fareboxes • Rio Vista can contribute ~\$25K matching funds from TDA capital reserve

Solano and Napa County agencies serve multiple regional hubs but will need to conform current fare policies to proposed Clipper offering



A summary of MTC's analysis of each operator group is shown below

	Projected Ridership	Connectivity	Ease of Implementation	Can Contribute Local Funds
East Bay	4	4	4	0
Ferry Services	0	3	2	4
Solano and Napa County	1	3	1	3
101 Corridor	1	1	1	1

0 – lowest; 4 - highest



	Fleet Size ¹	Average Weekday Ridership ¹	Projected Weekday Clipper Ridership	Projected Monthly Clipper Ridership
101 Corridor				
Petaluma	8	881	185	5,550
Santa Rosa CityBus	34	11,341	2,382	71,448
Sonoma County Transit	49	4,967	1,043	31,292
Healdsburg	1	373	78	2,350
Marin Transit	19	350	74	2,205
Total (101 Corridor)	111	17,912	3,762	112,846
Ferry Services				
Alameda/Oakland - San Francisco / Alameda Harbor Bay - San Francisco (WETA)	4	1,694	610	18,295
Vallejo - San Francisco (WETA)	4	2,084	750	22,507
Oakland - South San Francisco (WETA)	N/A	N/A	N/A	N/A
Sum (Ferry Services)	8	3,778	1,360	40,802
East Bay				
Western Contra Costa Transit Authority	42	5,081	1,829	54,875
Central Contra Costa Transit Authority	121	14,846	5,345	160,337
Eastern Contra Costa Transit Authority	68	9,556	3,440	103,205
Livermore-Amador Valley Transit Authority	74	7,809	2,811	84,337
Union City Transit	16	1,637	589	17,680
Total (East Bay)	321	38,929	14,014	420,433
Solano and Napa				
Vallejo Transit	60	5,643	2,031	60,944
Fairfield-Suisun Transit	62	3,359	1,209	36,277
Vacaville	18	1,021	214	6,432
Benicia	2	180	65	1,944
Napa County Planning and Transportation Agency	24	2,500	900	27,000
Rio Vista	5	65	14	410
Total (Solano and Napa)	166	12,768	4,434	133,007
Total (All)	606	73,387	23,570	707,089

¹ Source: Statistical Summary of Bay Area Transit Operators, June 2011, MTC