

Dubuque KeyLine Comprehensive Operational Analysis

Technical Memorandum #1 Existing Conditions

Prepared for:

City of Dubuque
50 West 13th Street
Dubuque, IA 52001
(563) 589-4393

Prepared by:

LSC Transportation Consultants, Inc.
516 North Tejon Street
Colorado Springs, CO 80903
(719) 633-2868

LSC #085560

February 11, 2009

TABLE OF CONTENTS

Chapter	Title	Page
I	INTRODUCTION	I-1
	Organization of This Report	I-1
	Background	I-2
	Issues and Goals	I-2
	Data Collection	I-3
	Operational Review	I-3
	Financial Review	I-3
	Recommendations	I-3
	General Service Overview	I-4
	History of Service	I-4
	Fixed-Route Overview	I-4
	Review of Previous Studies and Reports	I-6
	Design of a Community Transportation System (2000)	I-6
	DMATS 2031 Long Range Transportation Plan (2000)	I-8
	A Regional Response to Local Needs (2003)	I-9
	Dubuque Comprehensive Plan	I-11
II	SOCIOECONOMIC BACKGROUND	II-1
	Community Description	II-1
	Study Area Location	II-1
	Major Activity Centers	II-3
	Major Employers	II-5
	Study Area Demographics	II-5
	1990-2008 Population	II-5
	Population Density and Distribution	II-7
	Population Projections	II-9
	Transit-Dependent Population Characteristics	II-11
	Elderly Population	II-15
	Mobility Impairments	II-15
	Low-Income Individuals	II-15
	Minority Population	II-19
	Zero-Vehicle Households	II-19
	Households With One or More Vehicles	II-19
	College Student Population	II-23
	Household Density	II-23
	Economy	II-26
	Travel Patterns	II-27
	Work Transportation Mode	II-27
	Places of Residence and Work	II-30
III	ONBOARD SURVEY RESULTS	III-1
	Introduction	III-1
	Survey Findings	III-1
	Demographic Characteristics	III-2
	Age and Gender	III-2
	Annual Household Income	III-3
	Vehicle Ownership and Licensed Driver	III-4
	Employment	III-5

	Occupation	III-5
	Ethnicity	III-6
	Source of Information	III-7
	Fare Payment	III-8
	Trip Characteristics	III-8
	Trip Purpose	III-9
	Reason for Riding	III-9
	Transfers	III-10
	Coming From and Going To	III-11
	Blocks Walked To/From the Bus	III-14
	Temporal Analysis	III-15
	Ridership Frequency	III-16
	Perceptions about KeyLine Transit	III-17
	Additional Comments	III-18
IV	RIDERSHIP REVIEW	IV-1
	Historical Ridership Review	IV-1
	Ridership Trends	IV-1
	Ridership by Month	IV-6
	Ridership by Day	IV-6
	Current Ridership Tracking	IV-8
	Bicycles and Wheelchairs	IV-8
	Boardings by Route	IV-8
	Temporal Analysis	IV-12
	On-Time Performance	IV-14
	Transfer Analysis	IV-14
	Systemwide Performance	IV-15
	Boarding and Alighting Route Maps	IV-18
	NTD Reporting	IV-39
V	DEMAND ANALYSIS	V-1
	Introduction	V-1
	Fixed-Route Model	V-1
	Approach	V-2
	ADA Eligibility Model	V-7
	Greatest Transit Needs	V-13
	Methodology	V-13
	Results	V-19
	Demographic Maps and Service Area	V-23
	Low-Income Population	V-23
	Minority Population	V-24
	Limited-English-Proficient Population	V-24

APPENDIX A: Onboard Survey

APPENDIX B: Onboard Survey Comments

LIST OF TABULATIONS

Table	Title	Page
II-1	Major Employers in the Dubuque Area	II-5
II-2	Dubuque County Population Projections	II-9
II-3	2008 Estimated General Population Characteristics	II-13
II-4	2006 Industry Breakout by Employment in Dubuque County	II-26
II-5	Mode of Transportation	II-28
II-6	County-to-County Worker Flow Patterns out of Dubuque County	II-29
II-7	County-to-County Worker Flow Patterns into Dubuque County	II-30
III-1	Survey Responses by Time and Day	III-1
III-2	Information about KeyLine	III-7
III-3	Blocks Walked to Bus	III-15
III-4	Blocks Walked from Bus	III-15
III-5	Bus Waiting Times	III-16
III-6	Perceptions about KeyLine	III-18
IV-1	KeyLine Ridership Summary	IV-2
IV-2	Average Monthly and Daily Fixed-Route Ridership - 2008	IV-6
IV-3	KeyLine Daily Route Ridership Estimates	IV-7
IV-4	KeyLine Route Ridership Estimates	IV-9
IV-5	Ridership by Time (Weekday)	IV-12
IV-6	Transfer Matrix	IV-15
IV-7	KeyLine Performance Measures	IV-17
V-1	Fixed-Route Demand Model - Existing	V-3
V-2	2008 Estimated Paratransit Demand - Dubuque	V-9
V-3	2008 Greatest Transit Need Scores by Census Block Group	V-15
V-4	Census Block Groups with Greatest Transit Need	V-19

LIST OF ILLUSTRATIONS

Figure	Title	Page
II-1	Study Area	II-2
II-2	Activity Centers	II-4
II-3	Census Block Groups	II-6
II-4	Estimated 2008 Population Density	II-8
II-5	Projected 2012 Population Density	II-10
II-6	2008 Estimated Density of Elderly Persons	II-16
II-7	2008 Estimated Density of Mobility-Limited Persons	II-17
II-8	2008 Estimated Density of Low-Income Persons	II-18
II-9	2008 Estimated Density of Minority Persons	II-20
II-10	2008 Estimated Density of Zero-Vehicle Households	II-21
II-11	2008 Estimated Density of Households with One or More Vehicles	II-22

II-12	2008 Estimated Density of College Students	II-24
II-13	2008 Estimated Household Density	II-25
II-14	Where Workers Live	II-31
II-15	Where Workers Work	II-32
III-1	Age	III-2
III-2	Gender	III-3
III-3	Annual Household Income	III-3
III-4	Vehicles Available	III-4
III-5	License and Ability to Drive	III-5
III-6	Occupation	III-6
III-7	Race or Ethnicity	III-7
III-8	Fare Payment Method	III-8
III-9	Trip Purpose	III-9
III-10	Reason for Riding	III-10
III-11	Transfer Need	III-10
III-12	Mode to Bus	III-11
III-13	Location Prior to Boarding	III-12
III-14	Destination After Alighting	III-13
III-15	Mode from Bus	III-14
III-16	Ridership Frequency	III-17
IV-1	KeyLine Fixed-Route Ridership Summary	IV-3
IV-2	KeyLine Mini-Bus Ridership Summary	IV-4
IV-3	KeyLine Total Service Ridership Summary	IV-5
IV-4	Daily Ridership Comparison	IV-7
IV-5	Weekday Proportional Segment Ridership by Route Direction	IV-10
IV-6	Weekday Proportional Systemwide Ridership by Route Direction	IV-11
IV-7	Weekday Boardings by Time Period	IV-13
IV-8	Percentage of Early or Late	IV-14
IV-9	Weekday Green Boardings	IV-19
IV-10	Weekday Green Alightings	IV-20
IV-11	Weekday Green Boardings	IV-21
IV-12	Weekday Grey Alightings	IV-22
IV-13	Weekday Orange Boardings	IV-23
IV-14	Weekday Orange Alightings	IV-24
IV-15	Weekday Red Boardings	IV-25
IV-16	Weekday Red Alightings	IV-26
IV-17	Weekday Systemwide Boardings	IV-27
IV-18	Weekday Systemwide Alightings	IV-28
IV-19	Saturday Green Boardings	IV-29
IV-20	Saturday Green Alightings	IV-30
IV-21	Saturday Grey Boardings	IV-31
IV-22	Saturday Grey Alightings	IV-32
IV-23	Saturday Orange Boardings	IV-33
IV-24	Saturday Orange Alightings	IV-34
IV-25	Saturday Red Boardings	IV-35
IV-26	Saturday Red Alightings	IV-36
IV-27	Saturday Systemwide Boardings	IV-37
IV-28	Saturday Systemwide Alightings	IV-38

V-1	Greatest Transit Needs	V-20
V-2	Greatest Transit Needs with Routes	V-22
V-3	Low-Income Population Above the Threshold for 2008	V-25
V-4	Minority Population Above the Threshold for 2008	V-26
V-5	Limited English Proficiency Population Above the Threshold for 2008 .	V-27