

# DARIEN PUBLIC SCHOOL DISTRICT

## HIGH SCHOOL WALK ZONE RADIUS ANALYSIS

SCHOOL BUS LOGISTICS

**Date:** December 8 , 2020

**Presented by Rob Jacobus**

**Darien**  
Public School District



## PROJECT OBJECTIVES

- Impacts of moving the high school walk zone from 2 miles down to a 1.75-mile walk radius
- Impacts of moving the high school walk zone from 2 miles down to a 1.5-mile walk radius
- Impacts of moving the high school walk zone from 2 miles down to a 1-mile walk radius

Scenario was evaluated for the following:

- How many buses needed to add additional high school riders for all three options
- Impact of Bell Time Changes



## RECENT PROJECTS



**Jeffco Schools-Golden, CO**  
**Cherry Creek Schools- Greenwood Village, CO**  
**Boulder Valley- Boulder, CO**  
**Tahoe Truckee Unified- Tahoe, CA**  
**West County Transit- Santa Rosa, CA**  
**Fremont Unified- Fremont, CA**  
**Littleton Public- Littleton, CO**  
**Cumberland Schools- Cumberland, RI**  
**Holyoke Public Schools- Holyoke, MA**  
**New Canaan Public Schools, CT**



**Current bell structure allows school buses  
to be used multiple times- best possible outcome**



A run is a segment or leg of a route. A route is a compilation of runs (morning & afternoon) that make up the entire route for the day for a particular driver and bus

Currently the district operates a three-tier bell system. First bus runs are for the high school and middle school. The 2<sup>nd</sup> bus run services Hindley, Royle and Tokeneke Elementary schools. The last segment of the routes are for Holmes and Ox Ridge Elementary schools. As of the 2020-21 school year the district operates 25 bus routes.



# Sample Fleet Schedule



Scheduled Routes (137)												
6am	7am	8am	9am	10am	11am	12pm	1pm	2pm	3pm	4pm	5pm	6pm
	THS	H	HL					THS	HI	HL		
	THS	HI	HL					THS	HI	HL		
	THS	TOK	OX					THS	TOK	OX		
	THS	TOK	OX					THS	TOK	OX		
	THS	RO	OX					THS	RO	OX		
	THS	RO	OX					THS	RO	OX		
	MSM	TOK						MS	TOK			
	MSM	TOK	OX					MS	TOK	OX		
	MSM	H	HL					MSM	HI	HL		
	MSM	TOK	OX					MSM	TOK	OX		
	M	HN	OX					MS	HIN	OX		
	MSM	TOK						MSM	TOK			
	M	HI	HL					M	HI	HL		
	MSM	TOK	HLN					MS	TOK	HL		
	MSM	RO	OX					MSM	RO	OX		
	MSM	RO	OX					MSM	RO	OX		
	MS	TOK						MSM	TOK			
	THS	HI	OX					THS	HI	OX		
	MSM	ROY	HL					MSM	ROY	HL		
	MSM	RO	HLN					MSM	RO	HL		
	MSM	ROY						MSM	ROY			
	MSM	H	HL					MS	H	HL		
	MSM	H	OX					MSM	H	OX		
	THS	HI						THS	HI			

## Darien High School Students Bus Eligible vs. Actual Riders

Route	Eligible	Actual	Percent
01	116	61	52%
02	108	69	63%
03	88	27	30%
04	100	35	35%
05	76	29	38%
06	74	58	78%
18	64	22	34%
24	84	49	58%

*Table 1 – High School Load Counts by Route*

*\*snapshot of data from November 2019*



### **Option 1 – Walk Radius from 2 miles down to 1.75 miles**

- Option 1- Moving walk zone distance down to 1.75 miles increases 1 full bus route
- 100 new eligible high school riders

### **Option 2 – Walk Radius from 2 miles down to 1.5 miles**

- Option 2- Moving walk zone distance down to 1.5 miles increases to 2 full bus routes
- 180 new eligible high school riders

### **Option 3 – Walk Radius from 2 Miles down to 1 mile**

- Option 3- Moving walk zone distances down to 1-mile increases to 7 full bus routes
- 495 new eligible high school riders

*\*assumption that not all eligible riders take the bus- percentage is used for each area*

*\*opt-in transportation is best used for planning purposes*



#### **Option 4 – Bell Time Changes- Elementary**

- Option 4- Moving ALL elementary schools to the same tier increases to 2 full bus routes
- Getting Creative with Bell Times- Royle Elementary
- Express Routes for High School  
buses would run a 1<sup>st</sup> bus run to proposed new express stops and return back to the high school 25-30 minutes later to take home more high school students

#### **Option 5 – Bell Time Changes- Elementary & Moving High School Walk Zone**

- Moves High School walk zone down to 1.5 miles radius
- Moves ALL elementary schools to the same bell schedule
- Increases 2 full bus routes





## Evaluating Load Counts for Elementary Schools

Current Bus Runs	School	Actual Rider Counts	Bus Runs Needed	Runs Reduced
9	Hindley	397	7	2
8	Holmes	330	5	3
8	Tokeneke	317	5	3
11	Ox Ridge	321	5	6
7	Royle	224	4	3
TOTAL 43			26	17

*Table 2 – Elementary Load Counts by School*

- Why 43 buses needed now
- Why 26 buses needed if only one tier



## Walk Zones

DISTRICT NAME	ZONES
DARIEN PUBLIC SCHOOLS	K-5 = 1/2 MILE; 6-8 = 1 MILE; 9-12 = 2 MILES
WILTON PUBLIC SCHOOLS	WALK DISTANCE TO BUS STOP: K-5 = 1/2 MILE; 6-12 = 1 MILE
STAMFORD PUBLIC SCHOOLS	K-5 = 1 MILE; 6-8 = 1.5 MILES; 9-12 = 2 MILES
NEW CANAAN PUBLIC SCHOOLS	K-4 = 1/2 MILE; 5-6 = 2/3 MILE (OR .67); 7-12 = 1 MILE
FAIRFIELD PUBLIC SCHOOLS	ES = 3/4 MILE; MS = 1 MILE; HS = 1.5 MILES
RIDGEFIELD PUBLIC SCHOOLS	THIS INCLUDES HOME TO STOP AND HOME TO SCHOOL: K-5 = 1 MILE; 6-8 = 1.5 MILES; 9-12 = 2 MILES
WESTON PUBLIC SCHOOLS	K-5 = .25 MILES; MS & HS(6-12) = .50 MILES
GREENWICH PUBLIC SCHOOLS	ES = 1 MILE; MS = 1.5 MILES; HS = 2 MILES



# QUESTIONS?

