

The nycbullets package

New York City Subway route bullets

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You must take the  train
To go to Sugar Hill way up in Harlem
— Ella Fitzgerald

Same faces every day, but you don't know their names
Party people going places on the  train
— Beastie Boys

1 Introduction

This package typesets the route “bullets” of the New York City Subway:   ,  ,  , and so on. The artwork comes from the [New York City Subway bullets category on Wikimedia Commons](#), where nearly all of it is in the public domain (see section 3 for the exceptions). It has been compiled into a family of OpenType color fonts, one per set of bullets on Commons, plus one font containing all of them.

2 Usage

Load the package with Lua^AT_EX:

```
\usepackage{nycbullets}
```

`\nycbullet` `\nycbullet[options]{key}`

Typesets the bullet named *key* from the current set. The *options* are any of the options of `\nycbulletsetup`, applied to this bullet only; as a shortcut, an option that is just the name of a set selects that set, so `\nycbullet[helvetica]{F}` gives the Helvetica-set .

A *key* names the route, followed by modifiers and variants:

- The route itself: F, 7, SIR, JFK, 10, or – for the dash bullet.

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- A lower-case d for the diamond (express) form: Fd , 6d . A few R32 “special” forms add an s: Bs, Bsd.
- Variants, introduced by a dot: colors such as M.brown , historical routings such as B.broadway, years such as AA.1967–1979, and so on.

The complete list of keys in each set is in section 4. An unknown key is an error.

`\nycbulletsetup` `\nycbulletsetup{⟨key=value list⟩}`

Sets options for all following bullets in the current group. The same options can be given when loading the package.

set=⟨name⟩ The bullet set to use. The sets are std (or standard), helv (helvetica), nycta, r62a, r32, retired, legacy, and all. The default is std.

scale=⟨number⟩ Size of the bullets relative to the current font size. The default, 1, makes a circular bullet 0.8 em across, a little taller than a capital letter.

raise=⟨dimension⟩ Shift the bullets up (or down, if negative). The default is 0pt: circular bullets then extend 0.1 em below the baseline.

color=true|false Whether to use the colored glyphs (the default) or the monochrome outlines.

renderer=node|harfbuzz Which luaotfload shaper to use. Both render the bullets in color.

The color and renderer options take effect when a set’s font is first used, so set them in the preamble.

`\nycbulletfont` `\nycbulletfont[⟨set⟩]`

Switches to the bullet font of a set, for typing keys directly. The keys are ligatures in the font, so `{\nycbulletfont F Fd SIR}` gives   . Characters that are not part of a key come out as empty boxes. Separate adjacent bullets with spaces: “AC” is not the same as “A C”.

2.1 Engines

The bullets are in color only with Lua $\text{\LaTeX}$, which renders the fonts’ COLR table. With Xe $\text{\LaTeX}$ the package works, but the bullets come out in a single color (the current text color), because Xe $\text{\TeX}$ does not support color fonts. pdf $\text{\LaTeX}$ cannot use the fonts at all.

2.2 Using the fonts elsewhere

The fonts NYCTSubwayBullets-*.ttf can be installed and used in any application. Besides the COLR table they have an SVG color table (for Safari, macOS and Adobe applications) and monochrome outlines (as a fallback). Each bullet can be typed as its key, provided the application applies standard ligatures, or as its Private Use Area code point, which is listed in the tables below.

3 Credits

The bullet artwork comes from Wikimedia Commons. Nearly all of it is the work of the Metropolitan Transportation Authority and is in the public domain, and the fonts are dedicated to the public domain under CC0 1.0. These bullets are used under licenses that require attribution:

- [Special \(1967-1979\)](#) by Avy9ishere, CC BY 4.0.

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4 The bullets

4.1 NYC Subway Bullets Standard (set=std)

Bullet	Key	Code point	Description	Service
	–	U+E000	blank black circle	Blank
	–d	U+E001	blank black diamond	Blank
	0	U+E002	0 dark gray circle	42nd Street Shuttle
	0d	U+E003	0 black diamond	Unassigned
	1	U+E004	1 red circle	Broadway–Seventh Avenue Local
	1d	U+E005	1 red diamond	Broadway–Seventh Avenue Express
	2	U+E006	2 red circle	Seventh Avenue Express
	2d	U+E007	2 red diamond	Seventh Avenue Express
	3	U+E008	3 red circle	Seventh Avenue Express
	3d	U+E009	3 red diamond	Seventh Avenue Express
	4	U+E00A	4 green circle	Lexington Avenue Express
	4d	U+E00B	4 green diamond	Lexington Avenue Express
	5	U+E00C	5 green circle	Lexington Avenue Express
	5d	U+E00D	5 green diamond	Lexington Avenue Express
	6	U+E00E	6 green circle	Lexington Avenue Local
	6d	U+E00F	6 green diamond	Pelham Express
	7	U+E010	7 purple circle	Flushing Local
	7d	U+E011	7 purple diamond	Flushing Express
	8	U+E012	8 green circle	Unassigned
	8.turquoise	U+E013	8 turquoise circle	Third Avenue Local

Bullet	Key	Code point	Description	Service
	8d	U+E014	8 green diamond	Unassigned
	8d.turquoise	U+E015	8 turquoise diamond	Third Avenue Express
	9	U+E016	9 red circle	Broadway–Seventh Avenue Local
	9d	U+E017	9 red diamond	Broadway–Seventh Avenue Express
	10	U+E018	10 green circle	Unassigned
	11	U+E019	11 purple circle	Unassigned
	12	U+E01A	12 green circle	Unassigned
	13	U+E01B	13 red circle	Unassigned
	A	U+E01C	A blue circle	Eighth Avenue Express
	A.gray	U+E01D	A dark gray circle	Rockaway Park Shuttle
	Ad	U+E01E	A blue diamond	Eighth Avenue Express
	Ad.gray	U+E01F	A dark gray diamond	Rockaway Park Shuttle Express
	B	U+E020	B orange circle	Sixth Avenue Express
	Bd	U+E021	B orange diamond	Sixth Avenue Express
	Bs	U+E022	B yellow circle	West End Local via Broadway (1986–1988)
	Bsd	U+E023	B yellow diamond	West End Express via Broadway (1986–1988)
	C	U+E024	C blue circle	Eighth Avenue Local
	Cd	U+E025	C blue diamond	Eighth Avenue Express
	D	U+E026	D orange circle	Sixth Avenue Express
	Dd	U+E027	D orange diamond	Sixth Avenue Express
	Ds	U+E028	D yellow circle	Brighton Local via Broadway (1986–1988)
	Dsd	U+E029	D yellow diamond	Brighton Express via Broadway (1986–1988)
	E	U+E02A	E blue circle	Eighth Avenue Local
	Ed	U+E02B	E blue diamond	Eighth Avenue Express
	F	U+E02C	F orange circle	Sixth Avenue Local
	Fd	U+E02D	F orange diamond	Culver Express
	G	U+E02E	G lime green circle	Brooklyn–Queens Crosstown Local
	Gd	U+E02F	G lime green diamond	Brooklyn–Queens Crosstown Express
	H	U+E030	H blue circle	Rockaway Park Shuttle
	Hd	U+E031	H blue diamond	Rockaway Park Shuttle Express
	I	U+E032	I black circle	Unassigned
	Id	U+E033	I black diamond	Unassigned

Bullet	Key	Code point	Description	Service
	J	U+E034	J brown circle	Nassau Street Local
	Jd	U+E035	J brown diamond	Nassau Street Express
	K	U+E036	K blue circle	Eighth Avenue Local
	Kd	U+E037	K blue diamond	Eighth Avenue Express
	L	U+E038	L light gray circle	14th Street–Canarsie Local
	Ld	U+E039	L light gray diamond	14th Street–Canarsie Express
	M	U+E03A	M orange circle	Sixth Avenue Local
	M.brown	U+E03B	M brown circle	Nassau Street Local (1979–2010)
	Md	U+E03C	M orange diamond	Sixth Avenue Express
	Md.brown	U+E03D	M brown diamond	Nassau Street Express (2001–2010)
	N	U+E03E	N yellow circle	Broadway Express
	Nd	U+E03F	N yellow diamond	Broadway Express
	O	U+E040	O black circle	Unassigned
	Od	U+E041	O black diamond	Unassigned
	P	U+E042	P black circle	Unassigned
	Pd	U+E043	P black diamond	Unassigned
	Q	U+E044	Q yellow circle	Second Avenue Express
	Q.orange	U+E045	Q orange circle	Sixth Avenue Express (1988–2001)
	Qd	U+E046	Q yellow diamond	Second Avenue Express
	Qd.orange	U+E047	Q orange diamond	Sixth Avenue Express (1988–2001)
	R	U+E048	R yellow circle	Broadway Local
	R.brown	U+E049	R brown circle	Nassau Street Local (1985–1987)
	Rd	U+E04A	R yellow diamond	Broadway Express
	Rd.brown	U+E04B	R brown diamond	Nassau Street Express (1985–1987)
	S	U+E04C	S dark gray circle	Shuttle
	Sd	U+E04D	S dark gray diamond	Shuttle Express
	S6	U+E04E	S orange circle	Sixth Avenue Shuttle
	S6d	U+E04F	S orange diamond	Sixth Avenue Shuttle Express
	SB	U+E050	S yellow circle	63rd Street Shuttle
	SBd	U+E051	S yellow diamond	63rd Street Shuttle Express
	SF	U+E052	S with small F, dark gray circle	Franklin Avenue Shuttle
	SF.silver	U+E053	S light gray circle	Franklin Avenue Shuttle

Bullet	Key	Code point	Description	Service
	SF _d .silver	U+E054	S light gray diamond	Franklin Avenue Shuttle Express
	SIR	U+E055	SIR blue circle	Staten Island Railway
	SIR _d	U+E056	SIR blue diamond	Staten Island Railway Express
	SR	U+E057	S with small R, dark gray circle	Rockaway Park Shuttle
	SR _. blue	U+E058	S blue circle	Rockaway Park Shuttle
	SR _d .blue	U+E059	S blue diamond	Rockaway Park Shuttle Express
	T	U+E05A	T turquoise circle	Second Avenue Local (proposed)
	T _. black	U+E05B	T black circle	Unassigned
	T _d	U+E05C	T turquoise diamond	Second Avenue Express (proposed)
	T _d .black	U+E05D	T black diamond	Unassigned
	U	U+E05E	U black circle	Unassigned
	U _d	U+E05F	U black diamond	Unassigned
	V	U+E060	V orange circle	Sixth Avenue Local
	V _d	U+E061	V orange diamond	Sixth Avenue Express
	W	U+E062	W yellow circle	Broadway Local
	W _d	U+E063	W yellow diamond	Broadway Express
	X	U+E064	X black circle	Placeholder for proposed services
	X _d	U+E065	X black diamond	Placeholder for proposed services
	Y	U+E066	Y black circle	Unassigned
	Y _d	U+E067	Y black diamond	Unassigned
	Z	U+E068	Z brown circle	Nassau Street Express
	Z _d	U+E069	Z brown diamond	Nassau Street Express

4.2 NYC Subway Bullets Helvetica (set=helv)

Bullet	Key	Code point	Description	Service
	1	U+E000	1 red circle	Broadway–Seventh Avenue Local
	2	U+E001	2 red circle	Seventh Avenue Express
	3	U+E002	3 red circle	Seventh Avenue Express
	4	U+E003	4 green circle	Lexington Avenue Express
	4 _d	U+E004	4 green diamond	Lexington Avenue Express

Bullet	Key	Code point	Description	Service
	5	U+E005	5 green circle	Lexington Avenue Express
	5d	U+E006	5 green diamond	Lexington Avenue Express
	6	U+E007	6 green circle	Lexington Avenue Local
	6d	U+E008	6 green diamond	Pelham Express
	7	U+E009	7 purple circle	Flushing Local
	7d	U+E00A	7 purple diamond	Flushing Express
	9	U+E00B	9 red circle	Broadway–Seventh Avenue Local
	A	U+E00C	A blue circle	Eighth Avenue Express
	A.gray	U+E00D	A dark gray circle	Rockaway Park Shuttle
	A.orange	U+E00E	A orange circle	Eighth Avenue Express via Sixth Avenue
	Ad	U+E00F	A blue diamond	Eighth Avenue Express
	B	U+E010	B orange circle	Sixth Avenue Express
	B.yellow	U+E011	B yellow circle	Broadway Express (1986–1988)
	Bd	U+E012	B orange diamond	Sixth Avenue Express
	Bd.yellow	U+E013	B yellow diamond	Broadway Express (1986–1988)
	C	U+E014	C blue circle	Eighth Avenue Local
	Cd	U+E015	C blue diamond	Eighth Avenue Express
	D	U+E016	D orange circle	Sixth Avenue Express
	D.yellow	U+E017	D yellow circle	Sixth Avenue Express, Bronx–34th Street (1986–1988)
	Dd	U+E018	D orange diamond	Sixth Avenue Express
	E	U+E019	E blue circle	Eighth Avenue Local
	F	U+E01A	F orange circle	Sixth Avenue Local
	Fd	U+E01B	F orange diamond	Culver Express
	G	U+E01C	G lime green circle	Brooklyn–Queens Crosstown Local
	H	U+E01D	H blue circle	Rockaway Park Shuttle
	J	U+E01E	J brown circle	Nassau Street Local
	Jd	U+E01F	J brown diamond	Nassau Street Express
	K	U+E020	K blue circle	Eighth Avenue Local
	K.gray	U+E021	K light gray circle	Canarsie skip-stop (proposed)
	L	U+E022	L light gray circle	14th Street–Canarsie Local
	M	U+E023	M orange circle	Sixth Avenue Local
	M.brown	U+E024	M brown circle	Nassau Street Local (1979–2010)

Bullet	Key	Code point	Description	Service
	Md . brown	U+E025	M brown diamond	Nassau Street Express (2001–2010)
	N	U+E026	N yellow circle	Broadway Express
	Nd	U+E027	N yellow diamond	Broadway Express
	Q	U+E028	Q yellow circle	Second Avenue Express
	Qd	U+E029	Q yellow diamond	Second Avenue Express
	R	U+E02A	R yellow circle	Broadway Local
	Rd	U+E02B	R yellow diamond	Broadway Express
	S	U+E02C	S dark gray circle	Shuttle
	S . blue	U+E02D	S blue circle	Rockaway Park Shuttle
	S . orange	U+E02E	S orange circle	63rd Street Shuttle
	S . yellow	U+E02F	S yellow circle	Lefferts Boulevard Shuttle
	SF	U+E030	S with small F, dark gray circle	Franklin Avenue Shuttle
	SIR	U+E031	SIR dark blue circle	Staten Island Railway
	SR	U+E032	S with small R, dark gray circle	Rockaway Park Shuttle
	T	U+E033	T turquoise circle	Second Avenue Local (proposed)
	V	U+E034	V orange circle	Sixth Avenue Local
	W	U+E035	W yellow circle	Broadway Local
	Wd	U+E036	W yellow diamond	Broadway Express
	Z	U+E037	Z brown circle	Nassau Street Express
	Zd	U+E038	Z brown diamond	Nassau Street Express

4.3 NYC Subway Bullets NYCTA (set=nycta)

Bullet	Key	Code point	Description	Service
	1	U+E000	1 red circle	Broadway–Seventh Avenue Local
	2	U+E001	2 red circle	Seventh Avenue Express
	3	U+E002	3 red circle	Seventh Avenue Express
	4	U+E003	4 green circle	Lexington Avenue Express
	4d	U+E004	4 green diamond	Lexington Avenue Express
	5	U+E005	5 green circle	Lexington Avenue Express
	5d	U+E006	5 green diamond	Lexington Avenue Express

Bullet	Key	Code point	Description	Service
	6	U+E007	6 green circle	Lexington Avenue Local
	6d	U+E008	6 green diamond	Pelham Express
	7	U+E009	7 purple circle	Flushing Local
	7d	U+E00A	7 purple diamond	Flushing Express
	9	U+E00B	9 red circle	Broadway–Seventh Avenue Local
	A	U+E00C	A blue circle	Eighth Avenue Express
	A.sixth	U+E00D	A orange circle	Eighth Avenue Express via Sixth Avenue
	B	U+E00E	B orange circle	Sixth Avenue Express
	B.broadway	U+E00F	B yellow circle	Broadway Express
	Bd	U+E010	B orange diamond	Sixth Avenue Express
	Bd.broadway	U+E011	B yellow diamond	Broadway Express
	C	U+E012	C blue circle	Eighth Avenue Local
	Cd	U+E013	C blue diamond	Eighth Avenue Express
	D	U+E014	D orange circle	Sixth Avenue Express
	D.broadway	U+E015	D yellow circle	Broadway Express
	E	U+E016	E blue circle	Eighth Avenue Local
	F	U+E017	F orange circle	Sixth Avenue Local
	Fd	U+E018	F orange diamond	Culver Express
	G	U+E019	G lime green circle	Brooklyn–Queens Crosstown Local
	H	U+E01A	H blue circle	Rockaway Park Shuttle
	J	U+E01B	J brown circle	Nassau Street Local
	Jd	U+E01C	J brown diamond	Nassau Street Express
	K	U+E01D	K blue circle	Eighth Avenue Local
	K.canarsie	U+E01E	K dark gray circle	Canarsie skip-stop (proposed)
	L	U+E01F	L dark gray circle	14th Street–Canarsie Local
	M	U+E020	M orange circle	Sixth Avenue Local
	M.nassau	U+E021	M brown circle	Nassau Street Local
	Md.nassau	U+E022	M brown diamond	Nassau Street Express
	N	U+E023	N yellow circle	Broadway Express
	Nd	U+E024	N yellow diamond	Broadway Express
	Q	U+E025	Q yellow circle	Second Avenue Express
	Q.sixth	U+E026	Q orange circle	Sixth Avenue Express (1988–2001)

Bullet	Key	Code point	Description	Service
	Qd	U+E027	Q yellow diamond	Second Avenue Express
	R	U+E028	R yellow circle	Broadway Local
	Rd	U+E029	R yellow diamond	Broadway Express
	Rd.nassau	U+E02A	R brown diamond	Nassau Street Express
	S	U+E02B	S dark gray circle	Shuttle
	S.63	U+E02C	S yellow circle	63rd Street Shuttle
	S.rockaway	U+E02D	S blue circle	Rockaway Park Shuttle
	S.sixth	U+E02E	S orange circle	Sixth Avenue Shuttle
	T	U+E02F	T turquoise circle	Second Avenue Local (proposed)
	V	U+E030	V orange circle	Sixth Avenue Local
	W	U+E031	W yellow circle	Broadway Local
	Wd	U+E032	W yellow diamond	Broadway Express
	Z	U+E033	Z brown circle	Nassau Street Express

4.4 NYC Subway Bullets R62A (set=r62a)

Bullet	Key	Code point	Description	Service
	–	U+E000	blank black circle	Blank
	1	U+E001	1 red circle	Broadway–Seventh Avenue Local
	2	U+E002	2 red circle	Seventh Avenue Express
	3	U+E003	3 red circle	Seventh Avenue Express
	4	U+E004	4 green circle	Lexington Avenue Express
	5	U+E005	5 green circle	Lexington Avenue Express
	5d	U+E006	5 green diamond	Lexington Avenue Express
	6	U+E007	6 green circle	Lexington Avenue Local
	6d	U+E008	6 green diamond	Pelham Express
	7	U+E009	7 purple circle	Flushing Local
	7d	U+E00A	7 purple diamond	Flushing Express
	8	U+E00B	8 green circle	Unassigned
	9	U+E00C	9 red circle	Broadway–Seventh Avenue Local
	10	U+E00D	10 green circle	Unassigned

Bullet	Key	Code point	Description	Service
	11	U+E00E	11 purple circle	Unassigned
	12	U+E00F	12 green circle	Unassigned
	13	U+E010	13 red circle	Unassigned
	S	U+E011	S dark gray circle	Shuttle

4.5 NYC Subway Bullets R32 (set=r32)

Bullet	Key	Code point	Description	Service
	A	U+E000	A blue circle	Eighth Avenue Express
	B	U+E001	B orange circle	Sixth Avenue Express
	Bd	U+E002	B orange diamond	Sixth Avenue Express
	Bs	U+E003	B yellow circle	West End Local via Broadway (1986–1988)
	Bsd	U+E004	B yellow diamond	West End Express via Broadway (1986–1988)
	C	U+E005	C blue circle	Eighth Avenue Local
	Cd	U+E006	C blue diamond	Eighth Avenue Express
	D	U+E007	D orange circle	Sixth Avenue Express
	Ds	U+E008	D yellow circle	Brighton Local via Broadway (1986–1988)
	E	U+E009	E blue circle	Eighth Avenue Local
	F	U+E00A	F orange circle	Sixth Avenue Local
	G	U+E00B	G lime green circle	Brooklyn–Queens Crosstown Local
	H	U+E00C	H blue circle	Rockaway Park Shuttle
	J	U+E00D	J brown circle	Nassau Street Local
	Jd	U+E00E	J brown diamond	Nassau Street Express
	JFK	U+E00F	airplane turquoise circle	JFK Express
	K	U+E010	K blue circle	Eighth Avenue Local
	L	U+E011	L light gray circle	14th Street–Canarsie Local
	M.brown	U+E012	M brown circle	Nassau Street Local (1979–2010)
	Md.brown	U+E013	M brown diamond	Nassau Street Express (2001–2010)
	N	U+E014	N yellow circle	Broadway Express
	P	U+E015	P black circle	Unassigned
	Q	U+E016	Q yellow circle	Second Avenue Express

Bullet	Key	Code point	Description	Service
	Q. orange	U+E017	Q orange circle	Sixth Avenue Express (1988–2001)
	R	U+E018	R yellow circle	Broadway Local
	Rd. brown	U+E019	R brown diamond	Nassau Street Express (1985–1987)
	S6	U+E01A	S orange circle	Sixth Avenue Shuttle
	SB	U+E01B	S yellow circle	63rd Street Shuttle
	SF. silver	U+E01C	S light gray circle	Franklin Avenue Shuttle
	T. black	U+E01D	T black circle	Unassigned
	U	U+E01E	U black circle	Unassigned
	V	U+E01F	V orange circle	Sixth Avenue Local
	Wd	U+E020	W yellow diamond	Broadway Express
	X	U+E021	X black circle	Placeholder for proposed services
	Y	U+E022	Y black circle	Unassigned
	Z	U+E023	Z brown circle	Nassau Street Express

4.6 NYC Subway Bullets Retired (set=retired)

Bullet	Key	Code point	Description	Service
	1. 1967–1979	U+E000	1 orange circle	Broadway–Seventh Avenue Local (1967–1979)
	2. 1967–1979	U+E001	2 red circle	Seventh Avenue Express (1967–1979)
	3. 1967–1979	U+E002	3 turquoise circle	Seventh Avenue Express (1967–1979)
	4. 1967–1979	U+E003	4 magenta circle	Lexington Avenue Express (1967–1979)
	4d. helv	U+E004	4 green diamond	Lexington Avenue Express
	4d. std	U+E005	4 green diamond	Lexington Avenue Express
	5. 1967–1979	U+E006	5 black circle	Lexington Avenue Express (1967–1979)
	5d. helv	U+E007	5 green diamond	Lexington Avenue Express
	5d. std	U+E008	5 green diamond	Lexington Avenue Express
	6. 1967–1979	U+E009	6 yellow circle	Lexington Avenue Local (1967–1979)
	7. 1967–1979	U+E00A	7 orange circle	Flushing Local (1967–1979)
	8. 1967–1979	U+E00B	8 turquoise circle	Third Avenue Local (1967–1979)
	8. turquoise	U+E00C	8 turquoise circle	Third Avenue Local
	9. helv	U+E00D	9 red circle	Broadway–Seventh Avenue Local

Bullet	Key	Code point	Description	Service
	9.std	U+E00E	9 red circle	Broadway–Seventh Avenue Local
	A.1967–1979	U+E00F	A blue circle	Eighth Avenue Express (1967–1979)
	A.1967–1987	U+E010	A blue circle	Eighth Avenue Express (1967–1987)
	A.orange	U+E011	A orange circle	Eighth Avenue Express via Sixth Avenue
	Ad.1979–1987	U+E012	A blue diamond	Fulton Street Express (1979–1987)
	AA.1967–1979	U+E013	AA magenta circle	Eighth Avenue Local (1967–1979)
	AA.1979–1985	U+E014	AA blue circle	Eighth Avenue Local (1979–1985)
	B.1967–1979	U+E015	B black circle	Sixth Avenue Express (1967–1979)
	B.yellow	U+E016	B yellow circle	Broadway Express (1986–1988)
	Bd.helv	U+E017	B orange diamond	Sixth Avenue Express
	Bd.std	U+E018	B orange diamond	Sixth Avenue Express
	Bd.yellow	U+E019	B yellow diamond	Broadway Express (1986–1988)
	Bs	U+E01A	B yellow circle	West End Local via Broadway (1986–1988)
	Bsd	U+E01B	B yellow diamond	West End Express via Broadway (1986–1988)
	C.1985–1987	U+E01C	C blue circle	Eighth Avenue Local (1985–1987)
	Cd	U+E01D	C blue diamond	Eighth Avenue Express
	Cd.pre–1987	U+E01E	C blue diamond	Eighth Avenue Express (pre-1987)
	CC.1967–1979	U+E01F	CC green circle	Eighth Avenue Local (1967–1979)
	CC.1979–1985	U+E020	CC blue circle	Eighth Avenue Local (1979–1985)
	CCd	U+E021	CC blue diamond	Eighth Avenue Express
	D.1967–1979	U+E022	D orange circle	Sixth Avenue Express (1967–1979)
	D.yellow	U+E023	D yellow circle	Sixth Avenue Express, Bronx–34th Street (1986–1988)
	Dd.helv	U+E024	D orange diamond	Sixth Avenue Express
	Dd.std	U+E025	D orange diamond	Sixth Avenue Express
	Ds	U+E026	D yellow circle	Brighton Local via Broadway (1986–1988)
	E.1967–1979	U+E027	E turquoise circle	Eighth Avenue Local (1967–1979)
	E.1979–1987	U+E028	E blue circle	Eighth Avenue Local (1979–1987)
	EE.1967–1976	U+E029	EE orange circle	Broadway Local (1967–1976)
	F.1967–1979	U+E02A	F magenta circle	Sixth Avenue Local (1967–1979)
	GG.1967–1979	U+E02B	GG green circle	Brooklyn–Queens Crosstown Local (1967–1979)
	GG.1979–1985	U+E02C	GG lime green circle	Brooklyn–Queens Crosstown Local (1979–1985)
	H.1985–1987	U+E02D	H blue circle	Rockaway Park Shuttle (1985–1987)

Bullet	Key	Code point	Description	Service
	H.helv	U+E02E	H blue circle	Rockaway Park Shuttle
	H.std	U+E02F	H blue circle	Rockaway Park Shuttle
	HH.1967–1972	U+E030	HH red circle	Court Street Shuttle
	J.1973–1979	U+E031	J black circle	Nassau Street Local
	Jd.helv	U+E032	J brown diamond	Nassau Street Express
	Jd.std	U+E033	J brown diamond	Nassau Street Express
	JFK	U+E034	airplane turquoise circle	JFK Express
	JJ.1967–1973	U+E035	JJ orange circle	Nassau Street Local (1967–1973)
	K.1973–1976	U+E036	K blue circle	Jamaica–Sixth Avenue Local (1973–1976)
	K.1985–1987	U+E037	K blue circle	Eighth Avenue Local (1985–1987)
	K.helv	U+E038	K blue circle	Eighth Avenue Local
	K.std	U+E039	K blue circle	Eighth Avenue Local
	KK.1967–1973	U+E03A	KK blue circle	Jamaica–Sixth Avenue Local (1967–1973)
	LL.1967–1979	U+E03B	LL black circle	14th Street–Canarsie Local (1967–1979)
	LL.1979–1985	U+E03C	LL light gray circle	14th Street–Canarsie Local (1979–1985)
	M.1967–1979	U+E03D	M turquoise circle	Sixth Avenue Local (1967–1979)
	M.brown.helv	U+E03E	M brown circle	Nassau Street Local (1979–2010)
	M.brown.std	U+E03F	M brown circle	Nassau Street Local (1979–2010)
	Md.brown.helv	U+E040	M brown diamond	Nassau Street Express (2001–2010)
	Md.brown.std	U+E041	M brown diamond	Nassau Street Express (2001–2010)
	MJ.1967–1979	U+E042	MJ magenta circle	Myrtle Avenue Local (1967–1979)
	N.1967–1979	U+E043	N yellow circle	Broadway Express (1967–1979)
	Nd.helv	U+E044	N yellow diamond	Broadway Express
	Nd.std	U+E045	N yellow diamond	Broadway Express
	NX.1967–1968	U+E046	NX turquoise circle	Sea Beach–Brighton Express (1967–1968)
	Q.orange.helv	U+E047	Q orange circle	Sixth Avenue Express (1988–2001)
	Q.orange.std	U+E048	Q orange circle	Sixth Avenue Express (1988–2001)
	Qd	U+E049	Q yellow diamond	Second Avenue Express
	QB.1967–1979	U+E04A	QB red circle	Broadway–Brighton Local (1967–1979)
	QBd.1979–1985	U+E04B	QB yellow diamond	Broadway–Brighton Express (1979–1985)
	QJ.1967–1976	U+E04C	QJ black circle	Nassau Street–Brighton Local (1967–1976)
	Rd	U+E04D	R yellow diamond	Broadway Express

Bullet	Key	Code point	Description	Service
	RJ.1967–1968	U+E04E	RJ red circle	Jamaica–Fourth Avenue Local (1967–1968)
	RR.1967–1979	U+E04F	RR green circle	Broadway–Fourth Avenue Local (1967–1979)
	RR.1979–1985	U+E050	RR yellow circle	Broadway–Fourth Avenue Local (1979–1985)
	RRd.yellow	U+E051	RR yellow diamond	Broadway–Fourth Avenue Express
	S.orange	U+E052	S orange circle	63rd Street Shuttle
	S.yellow	U+E053	S yellow circle	Lefferts Boulevard Shuttle
	S6	U+E054	S orange circle	Sixth Avenue Shuttle
	SB	U+E055	S yellow circle	63rd Street Shuttle
	SS.1967–1968.black	U+E056	SS black circle	145th Street Shuttle (1967–1968)
	SS.1967–1968.blue	U+E057	SS blue circle	South Ferry Shuttle (1967–1968)
	SS.1967–1968.orange	U+E058	SS orange circle	Culver Shuttle (1967–1968)
	SS.1967–1968.turquoise	U+E059	SS turquoise circle	42nd Street Shuttle (1967–1968)
	SS.1967–1968.yellow	U+E05A	SS yellow circle	Franklin Avenue Shuttle (1967–1968)
	SS.1967–1979	U+E05B	SS green circle	Shuttle (1967–1979)
	Special.1967–1979	U+E05C	S white circle	Special service (1967–1979)
	TT.1967	U+E05D	TT blue circle	West End Local (1967)
	V.helv	U+E05E	V orange circle	Sixth Avenue Local
	V.std	U+E05F	V orange circle	Sixth Avenue Local
	Wd.helv	U+E060	W yellow diamond	Broadway Express
	Wd.std	U+E061	W yellow diamond	Broadway Express
	Zd	U+E062	Z brown diamond	Nassau Street Express

4.7 NYC Subway Bullets Legacy (set=legacy)

Bullet	Key	Code point	Description	Service
	9.red	U+E000	9 red circle	Broadway–Seventh Avenue Local
	Q.alt	U+E001	Q yellow circle	Second Avenue Express
	R.alt	U+E002	R yellow circle	Broadway Local
	SIR.2016–2017	U+E003	SIR dark blue circle	Staten Island Railway (2016–2017)

4.8 NYC Subway Bullets All (set=all)

Bullet	Key	Code point	Description	Service
	–	U+E000	blank black circle	Blank
	–d	U+E001	blank black diamond	Blank
	0	U+E002	0 dark gray circle	42nd Street Shuttle
	0d	U+E003	0 black diamond	Unassigned
	1	U+E004	1 red circle	Broadway–Seventh Avenue Local
	1.helv	U+E005	1 red circle	Broadway–Seventh Avenue Local
	1.nycta	U+E006	1 red circle	Broadway–Seventh Avenue Local
	1.retired.1967–1979	U+E007	1 orange circle	Broadway–Seventh Avenue Local (1967–1979)
	1d	U+E008	1 red diamond	Broadway–Seventh Avenue Express
	2	U+E009	2 red circle	Seventh Avenue Express
	2.helv	U+E00A	2 red circle	Seventh Avenue Express
	2.nycta	U+E00B	2 red circle	Seventh Avenue Express
	2.retired.1967–1979	U+E00C	2 red circle	Seventh Avenue Express (1967–1979)
	2d	U+E00D	2 red diamond	Seventh Avenue Express
	3	U+E00E	3 red circle	Seventh Avenue Express
	3.helv	U+E00F	3 red circle	Seventh Avenue Express
	3.nycta	U+E010	3 red circle	Seventh Avenue Express
	3.retired.1967–1979	U+E011	3 turquoise circle	Seventh Avenue Express (1967–1979)
	3d	U+E012	3 red diamond	Seventh Avenue Express
	4	U+E013	4 green circle	Lexington Avenue Express
	4.helv	U+E014	4 green circle	Lexington Avenue Express
	4.nycta	U+E015	4 green circle	Lexington Avenue Express
	4.retired.1967–1979	U+E016	4 magenta circle	Lexington Avenue Express (1967–1979)
	4d	U+E017	4 green diamond	Lexington Avenue Express
	4d.helv	U+E018	4 green diamond	Lexington Avenue Express
	4d.nycta	U+E019	4 green diamond	Lexington Avenue Express
	5	U+E01A	5 green circle	Lexington Avenue Express
	5.helv	U+E01B	5 green circle	Lexington Avenue Express
	5.nycta	U+E01C	5 green circle	Lexington Avenue Express
	5.retired.1967–1979	U+E01D	5 black circle	Lexington Avenue Express (1967–1979)
	5d	U+E01E	5 green diamond	Lexington Avenue Express
	5d.helv	U+E01F	5 green diamond	Lexington Avenue Express
	5d.nycta	U+E020	5 green diamond	Lexington Avenue Express
	6	U+E021	6 green circle	Lexington Avenue Local
	6.helv	U+E022	6 green circle	Lexington Avenue Local
	6.nycta	U+E023	6 green circle	Lexington Avenue Local
	6.retired.1967–1979	U+E024	6 yellow circle	Lexington Avenue Local (1967–1979)

Bullet	Key	Code point	Description	Service
	6d	U+E025	6 green diamond	Pelham Express
	6d.helv	U+E026	6 green diamond	Pelham Express
	6d.nycta	U+E027	6 green diamond	Pelham Express
	7	U+E028	7 purple circle	Flushing Local
	7.helv	U+E029	7 purple circle	Flushing Local
	7.nycta	U+E02A	7 purple circle	Flushing Local
	7.retired.1967–1979	U+E02B	7 orange circle	Flushing Local (1967–1979)
	7d	U+E02C	7 purple diamond	Flushing Express
	7d.helv	U+E02D	7 purple diamond	Flushing Express
	7d.nycta	U+E02E	7 purple diamond	Flushing Express
	8	U+E02F	8 green circle	Unassigned
	8.retired.1967–1979	U+E030	8 turquoise circle	Third Avenue Local (1967–1979)
	8.turquoise	U+E031	8 turquoise circle	Third Avenue Local
	8d	U+E032	8 green diamond	Unassigned
	8d.turquoise	U+E033	8 turquoise diamond	Third Avenue Express
	9	U+E034	9 red circle	Broadway–Seventh Avenue Local
	9.helv	U+E035	9 red circle	Broadway–Seventh Avenue Local
	9.legacy.red	U+E036	9 red circle	Broadway–Seventh Avenue Local
	9.nycta	U+E037	9 red circle	Broadway–Seventh Avenue Local
	9d	U+E038	9 red diamond	Broadway–Seventh Avenue Express
	10	U+E039	10 green circle	Unassigned
	11	U+E03A	11 purple circle	Unassigned
	12	U+E03B	12 green circle	Unassigned
	13	U+E03C	13 red circle	Unassigned
	A	U+E03D	A blue circle	Eighth Avenue Express
	A.gray	U+E03E	A dark gray circle	Rockaway Park Shuttle
	A.helv	U+E03F	A blue circle	Eighth Avenue Express
	A.helv.gray	U+E040	A dark gray circle	Rockaway Park Shuttle
	A.helv.orange	U+E041	A orange circle	Eighth Avenue Express via Sixth Avenue
	A.nycta	U+E042	A blue circle	Eighth Avenue Express
	A.nycta.sixth	U+E043	A orange circle	Eighth Avenue Express via Sixth Avenue
	A.retired.1967–1979	U+E044	A blue circle	Eighth Avenue Express (1967–1979)
	A.retired.1967–1987	U+E045	A blue circle	Eighth Avenue Express (1967–1987)
	Ad	U+E046	A blue diamond	Eighth Avenue Express
	Ad.gray	U+E047	A dark gray diamond	Rockaway Park Shuttle Express
	Ad.helv	U+E048	A blue diamond	Eighth Avenue Express
	Ad.retired.1979–1987	U+E049	A blue diamond	Fulton Street Express (1979–1987)

Bullet	Key	Code point	Description	Service
	AA.retired.1967–1979	U+E04A	AA magenta circle	Eighth Avenue Local (1967–1979)
	AA.retired.1979–1985	U+E04B	AA blue circle	Eighth Avenue Local (1979–1985)
	B	U+E04C	B orange circle	Sixth Avenue Express
	B.helv	U+E04D	B orange circle	Sixth Avenue Express
	B.helv.yellow	U+E04E	B yellow circle	Broadway Express (1986–1988)
	B.nycta	U+E04F	B orange circle	Sixth Avenue Express
	B.nycta.broadway	U+E050	B yellow circle	Broadway Express
	B.retired.1967–1979	U+E051	B black circle	Sixth Avenue Express (1967–1979)
	Bd	U+E052	B orange diamond	Sixth Avenue Express
	Bd.helv	U+E053	B orange diamond	Sixth Avenue Express
	Bd.helv.yellow	U+E054	B yellow diamond	Broadway Express (1986–1988)
	Bd.nycta	U+E055	B orange diamond	Sixth Avenue Express
	Bd.nycta.broadway	U+E056	B yellow diamond	Broadway Express
	Bs	U+E057	B yellow circle	West End Local via Broadway (1986–1988)
	Bsd	U+E058	B yellow diamond	West End Express via Broadway (1986–1988)
	C	U+E059	C blue circle	Eighth Avenue Local
	C.helv	U+E05A	C blue circle	Eighth Avenue Local
	C.nycta	U+E05B	C blue circle	Eighth Avenue Local
	C.retired.1985–1987	U+E05C	C blue circle	Eighth Avenue Local (1985–1987)
	Cd	U+E05D	C blue diamond	Eighth Avenue Express
	Cd.helv	U+E05E	C blue diamond	Eighth Avenue Express
	Cd.nycta	U+E05F	C blue diamond	Eighth Avenue Express
	Cd.retired.pre-1987	U+E060	C blue diamond	Eighth Avenue Express (pre-1987)
	CC.retired.1967–1979	U+E061	CC green circle	Eighth Avenue Local (1967–1979)
	CC.retired.1979–1985	U+E062	CC blue circle	Eighth Avenue Local (1979–1985)
	CCd.retired	U+E063	CC blue diamond	Eighth Avenue Express
	D	U+E064	D orange circle	Sixth Avenue Express
	D.helv	U+E065	D orange circle	Sixth Avenue Express
	D.helv.yellow	U+E066	D yellow circle	Sixth Avenue Express, Bronx–34th Street (1986–1988)
	D.nycta	U+E067	D orange circle	Sixth Avenue Express
	D.nycta.broadway	U+E068	D yellow circle	Broadway Express
	D.retired.1967–1979	U+E069	D orange circle	Sixth Avenue Express (1967–1979)
	Dd	U+E06A	D orange diamond	Sixth Avenue Express
	Dd.helv	U+E06B	D orange diamond	Sixth Avenue Express
	Ds	U+E06C	D yellow circle	Brighton Local via Broadway (1986–1988)
	Dsd	U+E06D	D yellow diamond	Brighton Express via Broadway (1986–1988)
	E	U+E06E	E blue circle	Eighth Avenue Local

Bullet	Key	Code point	Description	Service
	E.helv	U+E06F	E blue circle	Eighth Avenue Local
	E.nycta	U+E070	E blue circle	Eighth Avenue Local
	E.retired.1967–1979	U+E071	E turquoise circle	Eighth Avenue Local (1967–1979)
	E.retired.1979–1987	U+E072	E blue circle	Eighth Avenue Local (1979–1987)
	Ed	U+E073	E blue diamond	Eighth Avenue Express
	EE.retired.1967–1976	U+E074	EE orange circle	Broadway Local (1967–1976)
	F	U+E075	F orange circle	Sixth Avenue Local
	F.helv	U+E076	F orange circle	Sixth Avenue Local
	F.nycta	U+E077	F orange circle	Sixth Avenue Local
	F.retired.1967–1979	U+E078	F magenta circle	Sixth Avenue Local (1967–1979)
	Fd	U+E079	F orange diamond	Culver Express
	Fd.helv	U+E07A	F orange diamond	Culver Express
	Fd.nycta	U+E07B	F orange diamond	Culver Express
	G	U+E07C	G lime green circle	Brooklyn–Queens Crosstown Local
	G.helv	U+E07D	G lime green circle	Brooklyn–Queens Crosstown Local
	G.nycta	U+E07E	G lime green circle	Brooklyn–Queens Crosstown Local
	Gd	U+E07F	G lime green diamond	Brooklyn–Queens Crosstown Express
	GG.retired.1967–1979	U+E080	GG green circle	Brooklyn–Queens Crosstown Local (1967–1979)
	GG.retired.1979–1985	U+E081	GG lime green circle	Brooklyn–Queens Crosstown Local (1979–1985)
	H	U+E082	H blue circle	Rockaway Park Shuttle
	H.helv	U+E083	H blue circle	Rockaway Park Shuttle
	H.nycta	U+E084	H blue circle	Rockaway Park Shuttle
	H.retired.1985–1987	U+E085	H blue circle	Rockaway Park Shuttle (1985–1987)
	Hd	U+E086	H blue diamond	Rockaway Park Shuttle Express
	HH.retired.1967–1972	U+E087	HH red circle	Court Street Shuttle
	I	U+E088	I black circle	Unassigned
	Id	U+E089	I black diamond	Unassigned
	J	U+E08A	J brown circle	Nassau Street Local
	J.helv	U+E08B	J brown circle	Nassau Street Local
	J.nycta	U+E08C	J brown circle	Nassau Street Local
	J.retired.1973–1979	U+E08D	J black circle	Nassau Street Local
	Jd	U+E08E	J brown diamond	Nassau Street Express
	Jd.helv	U+E08F	J brown diamond	Nassau Street Express
	Jd.nycta	U+E090	J brown diamond	Nassau Street Express
	JFK.r32	U+E091	airplane turquoise circle	JFK Express
	JJ.retired.1967–1973	U+E092	JJ orange circle	Nassau Street Local (1967–1973)
	K	U+E093	K blue circle	Eighth Avenue Local

Bullet	Key	Code point	Description	Service
	K.helv	U+E094	K blue circle	Eighth Avenue Local
	K.helv.gray	U+E095	K light gray circle	Canarsie skip-stop (proposed)
	K.nycta	U+E096	K blue circle	Eighth Avenue Local
	K.nycta.canarsie	U+E097	K dark gray circle	Canarsie skip-stop (proposed)
	K.retired.1973–1976	U+E098	K blue circle	Jamaica–Sixth Avenue Local (1973–1976)
	K.retired.1985–1987	U+E099	K blue circle	Eighth Avenue Local (1985–1987)
	Kd	U+E09A	K blue diamond	Eighth Avenue Express
	KK.retired.1967–1973	U+E09B	KK blue circle	Jamaica–Sixth Avenue Local (1967–1973)
	L	U+E09C	L light gray circle	14th Street–Canarsie Local
	L.helv	U+E09D	L light gray circle	14th Street–Canarsie Local
	L.nycta	U+E09E	L dark gray circle	14th Street–Canarsie Local
	Ld	U+E09F	L light gray diamond	14th Street–Canarsie Express
	LL.retired.1967–1979	U+E0A0	LL black circle	14th Street–Canarsie Local (1967–1979)
	LL.retired.1979–1985	U+E0A1	LL light gray circle	14th Street–Canarsie Local (1979–1985)
	M	U+E0A2	M orange circle	Sixth Avenue Local
	M.brown	U+E0A3	M brown circle	Nassau Street Local (1979–2010)
	M.helv	U+E0A4	M orange circle	Sixth Avenue Local
	M.helv.brown	U+E0A5	M brown circle	Nassau Street Local (1979–2010)
	M.nycta	U+E0A6	M orange circle	Sixth Avenue Local
	M.nycta.nassau	U+E0A7	M brown circle	Nassau Street Local
	M.retired.1967–1979	U+E0A8	M turquoise circle	Sixth Avenue Local (1967–1979)
	Md	U+E0A9	M orange diamond	Sixth Avenue Express
	Md.brown	U+E0AA	M brown diamond	Nassau Street Express (2001–2010)
	Md.helv.brown	U+E0AB	M brown diamond	Nassau Street Express (2001–2010)
	Md.nycta.nassau	U+E0AC	M brown diamond	Nassau Street Express
	MJ.retired.1967–1979	U+E0AD	MJ magenta circle	Myrtle Avenue Local (1967–1979)
	N	U+E0AE	N yellow circle	Broadway Express
	N.helv	U+E0AF	N yellow circle	Broadway Express
	N.nycta	U+E0B0	N yellow circle	Broadway Express
	N.retired.1967–1979	U+E0B1	N yellow circle	Broadway Express (1967–1979)
	Nd	U+E0B2	N yellow diamond	Broadway Express
	Nd.helv	U+E0B3	N yellow diamond	Broadway Express
	Nd.nycta	U+E0B4	N yellow diamond	Broadway Express
	NX.retired.1967–1968	U+E0B5	NX turquoise circle	Sea Beach–Brighton Express (1967–1968)
	O	U+E0B6	O black circle	Unassigned
	Od	U+E0B7	O black diamond	Unassigned
	P	U+E0B8	P black circle	Unassigned

Bullet	Key	Code point	Description	Service
	Pd	U+E0B9	P black diamond	Unassigned
	Q	U+E0BA	Q yellow circle	Second Avenue Express
	Q.helv	U+E0BB	Q yellow circle	Second Avenue Express
	Q.legacy.alt	U+E0BC	Q yellow circle	Second Avenue Express
	Q.nycta	U+E0BD	Q yellow circle	Second Avenue Express
	Q.nycta.sixth	U+E0BE	Q orange circle	Sixth Avenue Express (1988–2001)
	Q.orange	U+E0BF	Q orange circle	Sixth Avenue Express (1988–2001)
	Q.retired.orange.helv	U+E0C0	Q orange circle	Sixth Avenue Express (1988–2001)
	Qd	U+E0C1	Q yellow diamond	Second Avenue Express
	Qd.helv	U+E0C2	Q yellow diamond	Second Avenue Express
	Qd.nycta	U+E0C3	Q yellow diamond	Second Avenue Express
	Qd.orange	U+E0C4	Q orange diamond	Sixth Avenue Express (1988–2001)
	QB.retired.1967–1979	U+E0C5	QB red circle	Broadway–Brighton Local (1967–1979)
	QBd.retired.1979–1985	U+E0C6	QB yellow diamond	Broadway–Brighton Express (1979–1985)
	QJ.retired.1967–1976	U+E0C7	QJ black circle	Nassau Street–Brighton Local (1967–1976)
	R	U+E0C8	R yellow circle	Broadway Local
	R.brown	U+E0C9	R brown circle	Nassau Street Local (1985–1987)
	R.helv	U+E0CA	R yellow circle	Broadway Local
	R.legacy.alt	U+E0CB	R yellow circle	Broadway Local
	R.nycta	U+E0CC	R yellow circle	Broadway Local
	Rd	U+E0CD	R yellow diamond	Broadway Express
	Rd.brown	U+E0CE	R brown diamond	Nassau Street Express (1985–1987)
	Rd.helv	U+E0CF	R yellow diamond	Broadway Express
	Rd.nycta	U+E0D0	R yellow diamond	Broadway Express
	Rd.nycta.nassau	U+E0D1	R brown diamond	Nassau Street Express
	RJ.retired.1967–1968	U+E0D2	RJ red circle	Jamaica–Fourth Avenue Local (1967–1968)
	RR.retired.1967–1979	U+E0D3	RR green circle	Broadway–Fourth Avenue Local (1967–1979)
	RR.retired.1979–1985	U+E0D4	RR yellow circle	Broadway–Fourth Avenue Local (1979–1985)
	RRd.retired.yellow	U+E0D5	RR yellow diamond	Broadway–Fourth Avenue Express
	S	U+E0D6	S dark gray circle	Shuttle
	S.helv	U+E0D7	S dark gray circle	Shuttle
	S.helv.blue	U+E0D8	S blue circle	Rockaway Park Shuttle
	S.helv.orange	U+E0D9	S orange circle	63rd Street Shuttle
	S.helv.yellow	U+E0DA	S yellow circle	Lefferts Boulevard Shuttle
	S.nycta	U+E0DB	S dark gray circle	Shuttle
	S.nycta.63	U+E0DC	S yellow circle	63rd Street Shuttle
	S.nycta.rockaway	U+E0DD	S blue circle	Rockaway Park Shuttle

Bullet	Key	Code point	Description	Service
	S.nycta.sixth	U+E0DE	S orange circle	Sixth Avenue Shuttle
	Sd	U+E0DF	S dark gray diamond	Shuttle Express
	S6	U+E0E0	S orange circle	Sixth Avenue Shuttle
	S6d	U+E0E1	S orange diamond	Sixth Avenue Shuttle Express
	SB	U+E0E2	S yellow circle	63rd Street Shuttle
	SBd	U+E0E3	S yellow diamond	63rd Street Shuttle Express
	SF	U+E0E4	S with small F, dark gray circle	Franklin Avenue Shuttle
	SF.helv	U+E0E5	S with small F, dark gray circle	Franklin Avenue Shuttle
	SF.silver	U+E0E6	S light gray circle	Franklin Avenue Shuttle
	SFd.silver	U+E0E7	S light gray diamond	Franklin Avenue Shuttle Express
	SIR	U+E0E8	SIR blue circle	Staten Island Railway
	SIR.helv	U+E0E9	SIR dark blue circle	Staten Island Railway
	SIR.legacy.2016–2017	U+E0EA	SIR dark blue circle	Staten Island Railway (2016–2017)
	SIRd	U+E0EB	SIR blue diamond	Staten Island Railway Express
	SR	U+E0EC	S with small R, dark gray circle	Rockaway Park Shuttle
	SR.blue	U+E0ED	S blue circle	Rockaway Park Shuttle
	SR.helv	U+E0EE	S with small R, dark gray circle	Rockaway Park Shuttle
	SRd.blue	U+E0EF	S blue diamond	Rockaway Park Shuttle Express
	SS.retired.1967–1968.black	U+E0F0	SS black circle	145th Street Shuttle (1967–1968)
	SS.retired.1967–1968.blue	U+E0F1	SS blue circle	South Ferry Shuttle (1967–1968)
	SS.retired.1967–1968.orange	U+E0F2	SS orange circle	Culver Shuttle (1967–1968)
	SS.retired.1967–1968.turquoise	U+E0F3	SS turquoise circle	42nd Street Shuttle (1967–1968)
	SS.retired.1967–1968.yellow	U+E0F4	SS yellow circle	Franklin Avenue Shuttle (1967–1968)
	SS.retired.1967–1979	U+E0F5	SS green circle	Shuttle (1967–1979)
	Special.retired.1967–1979	U+E0F6	S white circle	Special service (1967–1979)
	T	U+E0F7	T turquoise circle	Second Avenue Local (proposed)
	T.black	U+E0F8	T black circle	Unassigned
	T.helv	U+E0F9	T turquoise circle	Second Avenue Local (proposed)
	T.nycta	U+E0FA	T turquoise circle	Second Avenue Local (proposed)
	Td	U+E0FB	T turquoise diamond	Second Avenue Express (proposed)
	Td.black	U+E0FC	T black diamond	Unassigned
	TT.retired.1967	U+E0FD	TT blue circle	West End Local (1967)
	U	U+E0FE	U black circle	Unassigned
	Ud	U+E0FF	U black diamond	Unassigned
	V	U+E100	V orange circle	Sixth Avenue Local
	V.helv	U+E101	V orange circle	Sixth Avenue Local
	V.nycta	U+E102	V orange circle	Sixth Avenue Local

Bullet	Key	Code point	Description	Service
	Vd	U+E103	V orange diamond	Sixth Avenue Express
	W	U+E104	W yellow circle	Broadway Local
	W.helv	U+E105	W yellow circle	Broadway Local
	W.nycta	U+E106	W yellow circle	Broadway Local
	Wd	U+E107	W yellow diamond	Broadway Express
	Wd.helv	U+E108	W yellow diamond	Broadway Express
	Wd.nycta	U+E109	W yellow diamond	Broadway Express
	X	U+E10A	X black circle	Placeholder for proposed services
	Xd	U+E10B	X black diamond	Placeholder for proposed services
	Y	U+E10C	Y black circle	Unassigned
	Yd	U+E10D	Y black diamond	Unassigned
	Z	U+E10E	Z brown circle	Nassau Street Express
	Z.helv	U+E10F	Z brown circle	Nassau Street Express
	Z.nycta	U+E110	Z brown circle	Nassau Street Express
	Zd	U+E111	Z brown diamond	Nassau Street Express
	Zd.helv	U+E112	Z brown diamond	Nassau Street Express

5 nycbullets implementation

```

1 <package>
2 <@@=nycbullets>
3 \NeedsTeXFormat{LaTeX2e}[2022-06-01]
4 \ProvidesExplPackage{nycbullets}{2026-10-04}{1.0}
5   {New York City Subway route bullets}

```

5.1 Messages

```

6 \msg_new:nnn { nycbullets } { pdftex }
7   {
8     The~nycbullets~package~needs~OpenType~fonts:~
9     use~LuaLaTeX~(or~XeLaTeX~for~monochrome~bullets).
10  }
11 \msg_new:nnn { nycbullets } { xetex }
12   { XeTeX~cannot~render~color~fonts:~the~bullets~will~be~monochrome. }
13 \msg_new:nnnn { nycbullets } { unknown-key }
14   { Unknown~bullet~key~`#1'~in~set~`#2'. }
15   { See~the~nycbullets~documentation~for~the~keys~in~each~set. }
16 \msg_new:nnn { nycbullets } { unknown-option }
17   { Unknown~option~`#1'. }
18 \msg_new:nnnn { nycbullets } { unknown-set }
19   { Unknown~bullet~set~`#1'. }
20   { The~known~sets~are:~#2. }

```

5.2 Engine check

```
21 \sys_if_engine_pdftex:T
22 {
23   \msg_critical:nn { nycbullets } { pdftex }
24 }
25 \sys_if_engine_xetex:T
26 { \msg_warning:nn { nycbullets } { xetex } }
27 \RequirePackage { fontspec }
```

5.3 Variables

```
28 \tl_new:N \l__nycbullets_set_tl
29 \fp_new:N \l__nycbullets_scale_fp
30 \dim_new:N \l__nycbullets_raise_dim
31 \bool_new:N \l__nycbullets_color_bool
32 \tl_new:N \l__nycbullets_renderer_tl
33 \tl_new:N \l__nycbullets_id_tl
34 \tl_new:N \l__nycbullets_cp_tl
35 \box_new:N \l__nycbullets_box
```

Set id → font file; any accepted set name → set id; the list of set ids (for messages).

```
\g__nycbullets_sets_prop
\g__nycbullets_alias_prop
\g__nycbullets_names_seq
36 \prop_new:N \g__nycbullets_sets_prop
37 \prop_new:N \g__nycbullets_alias_prop
38 \seq_new:N \g__nycbullets_names_seq
```

(End of definition for `\g__nycbullets_sets_prop`, `\g__nycbullets_alias_prop`, and `\g__nycbullets_names_seq`.)

5.4 Declaring sets and keys

These are used by the generated files `nycbullets-sets.def` and `nycbullets-⟨set⟩.def`.

```
\nycbullets_declare_set:nnn \nycbullets_declare_set:nnn {⟨id⟩} {⟨name⟩} {⟨font file⟩}
39 \cs_new_protected:Npn \nycbullets_declare_set:nnn #1#2#3
40 {
41   \prop_gput:Nnn \g__nycbullets_sets_prop {#1} {#3}
42   \prop_gput:Nnn \g__nycbullets_alias_prop {#1} {#1}
43   \prop_gput:Nen \g__nycbullets_alias_prop { \str_lowercase:n {#2} } {#1}
44   \seq_gput_right:Nn \g__nycbullets_names_seq {#1}
45   \prop_new:c { g__nycbullets_keys_#1_prop }
46   \bool_new:c { g__nycbullets_loaded_#1_bool }
47 }
```

(End of definition for `\nycbullets_declare_set:nnn`. This function is documented on page ??.)

```
\nycbullets_declare_keys:nn \nycbullets_declare_keys:nn {⟨id⟩} { {⟨key⟩} {⟨hex code point⟩} ... }
48 \cs_new_protected:Npn \nycbullets_declare_keys:nn #1#2
49 {
50   \bool_set_false:N \l__nycbullets_pending_bool
51   \tl_map_tokens:nn {#2} { \__nycbullets_declare_key:nn {#1} }
52 }
```

`\tl_map_tokens:nn` hands over one braced item at a time, so keys and code points alternate: we remember each key until its code point arrives.

```

53 \tl_new:N \l__nycbullets_pending_key_tl
54 \bool_new:N \l__nycbullets_pending_bool
55 \cs_new_protected:Npn \__nycbullets_declare_key:nn #1#2
56 {
57   \bool_if:NTF \l__nycbullets_pending_bool
58   {
59     \prop_gput:cVn { g__nycbullets_keys_#1_prop } \l__nycbullets_pending_key_tl {
60       \bool_set_false:N \l__nycbullets_pending_bool
61     }
62   }
63   \tl_set:Ne \l__nycbullets_pending_key_tl { \tl_to_str:n {#2} }
64   \bool_set_true:N \l__nycbullets_pending_bool
65 }
66 }

```

(End of definition for `\nycbullets_declare_keys:nn`. This function is documented on page ??.)

```

67 \file_input:n { nycbullets-sets.def }

```

5.5 Loading a set

`\__nycbullets_resolve_set:n` Set `\l__nycbullets_id_tl` to the id of the set named `#1`, or raise an error and fall back to the first set.

```

68 \cs_new_protected:Npn \__nycbullets_resolve_set:n #1
69 {
70   \prop_get:NeNF \g__nycbullets_alias_prop { \str_lowercase:n {#1} } \l__nycbullets
71   {
72     \msg_error:nnne { nycbullets } { unknown-set } {#1}
73     { \seq_use:Nn \g__nycbullets_names_seq { ,~ } }
74     \tl_set:Ne \l__nycbullets_id_tl { \seq_item:Nn \g__nycbullets_names_seq { 1 } }
75   }
76 }

```

(End of definition for `\__nycbullets_resolve_set:n`.)

`\__nycbullets_load:V` On first use of a set, read its key table. This may happen inside a group, so everything it defines is global. We make sure `%` is a comment character, which it isn't in (for instance) `\DocInput`, and that line ends are ignored, so the file can't end the paragraph.

```

77 \cs_new_protected:Npn \__nycbullets_load:n #1
78 {
79   \bool_if:cF { g__nycbullets_loaded_#1_bool }
80   {
81     \group_begin:
82       \char_set_catcode_comment:N \%
83       \char_set_catcode_ignore:n { 13 }
84       \file_input:n { nycbullets-#1.def }
85     \group_end:
86     \bool_gset_true:c { g__nycbullets_loaded_#1_bool }
87   }
88 }
89 \cs_generate_variant:Nn \__nycbullets_load:n { V }

```

(End of definition for `\__nycbullets_load:V`.)

`\__nycbullets_declare_font:nn` Declare the font family `\@@_font_<id>:.` With LuaTeX the `colr` feature turns on the color layers.

```

90 \cs_new_protected:Npn \__nycbullets_declare_font:nn #1#2
91 {
92   \clist_clear:N \__nycbullets_features_clist
93   \sys_if_engine luatex:T
94   {
95     \str_if_eq:VnT \__nycbullets_renderer_tl { harfbuzz }
96     { \clist_put_right:Nn \__nycbullets_features_clist { Renderer = HarfBuzz } }
97     \bool_if:NTF \__nycbullets_color_bool
98     { \clist_put_right:Nn \__nycbullets_features_clist { RawFeature = {+colr} } }
99     { \clist_put_right:Nn \__nycbullets_features_clist { RawFeature = {-
colr} } } }
100   }
101   \use:e
102   {
103     \exp_not:N \newfontfamily
104     \exp_not:c { __nycbullets_font_#1: }
105     { \exp_not:n {#2} }
106     [ \exp_not:V \__nycbullets_features_clist ]
107   }
108 }
109 \clist_new:N \__nycbullets_features_clist

```

(End of definition for `\__nycbullets_declare_font:nn`.)

The font families are declared at the start of the document, after any `\nycbulletsetup` in the preamble. (`\newfontfamily` defines its command locally, so it cannot wait for the first bullet, which is typeset in a group.) Declaring a family does not load the font.

```

110 \cs_new_protected:Npn \__nycbullets_declare_fonts:
111 {
112   \prop_map_inline:Nn \g__nycbullets_sets_prop
113   { \__nycbullets_declare_font:nn {##1} {##2} }
114 }
115 \hook_gput_code:nnn { begindocument } { nycbullets } { \__nycbullets_declare_fonts: }

```

5.6 Options

```

116 \keys_define:nn { nycbullets }
117 {
118   set      .tl_set:N    = \__nycbullets_set_tl ,
119   set      .initial:n   = std ,
120   scale    .fp_set:N    = \__nycbullets_scale_fp ,
121   scale    .initial:n   = 1 ,
122   raise    .dim_set:N   = \__nycbullets_raise_dim ,
123   raise    .initial:n   = 0pt ,
124   color    .bool_set:N  = \__nycbullets_color_bool ,
125   color    .initial:n   = true ,
126   color    .default:n   = true ,
127   renderer .choices:nn = { node , harfbuzz }
128   { \tl_set:Nc \__nycbullets_renderer_tl { \l_keys_choice_tl } } ,
129   renderer .initial:n   = node ,

```

```

130     unknown .code:n      =
131     {
132         \tl_if_blank:nTF {#1}
133         { \tl_set:Nc \l__nycbullets_set_tl { \l_keys_key_str } }
134         {
135             \msg_error:nne { nycbullets } { unknown-option }
136             { \l_keys_key_str }
137         }
138     } ,
139 }
140 \ProcessKeyOptions [ nycbullets ]

```

5.7 User commands

`\nycbullets_codepoint:nn` The (hexadecimal) code point of key #2 in set #1 (an id or alias), or nothing. Expandable; the set must have been used already.

```

141 \cs_new:Npn \nycbullets_codepoint:nn #1#2
142 {
143     \prop_item:cn
144     {
145         g__nycbullets_keys_
146         \exp_args:NNe \prop_item:Nn \g__nycbullets_alias_prop { \str_lowercase:n {#1} }
147         _prop
148     }
149     {#2}
150 }

```

(End of definition for `\nycbullets_codepoint:nn`. This function is documented on page ??.)

`\nycbullets_bullet:n` Typeset one bullet with the current options.

```

151 \cs_new_protected:Npn \nycbullets_bullet:n #1
152 {
153     \__nycbullets_resolve_set:V \l__nycbullets_set_tl
154     \__nycbullets_load:V \l__nycbullets_id_tl
155     \__nycbullets_bullet:Vn \l__nycbullets_id_tl {#1}
156 }

```

The set id is passed as an argument here so that it can be part of control sequence names: in `\ExplSyntaxOn`, `\l_@@_id_tl _prop` would be read as a single name.

```

157 \cs_new_protected:Npn \__nycbullets_bullet:nn #1#2
158 {
159     \prop_get:cnNTF { g__nycbullets_keys_#1_prop } {#2} \l__nycbullets_cp_tl
160     {
161         \mode_leave_vertical:
162         \hbox_set:Nn \l__nycbullets_box
163         {
164             \__nycbullets_select_font:n {#1}
165             \tex_char:D " \l__nycbullets_cp_tl \scan_stop:
166         }
167         \box_move_up:nn { \l__nycbullets_raise_dim } { \box_use_drop:N \l__nycbullets_box }
168     }
169     { \msg_error:nnnn { nycbullets } { unknown-key } {#2} {#1} }

```

```

170 }
171 \cs_generate_variant:Nn \__nycbullets_bullet:nn { V }
172 \cs_generate_variant:Nn \__nycbullets_resolve_set:n { V }

```

(End of definition for `\nycbullets_bullet:n`. This function is documented on page ??.)

`\__nycbullets_select_font:n` Switch to the font of set #1 at the requested scale.

```

173 \cs_new_protected:Npn \__nycbullets_select_font:n #1
174 {
175   \use:c { __nycbullets_font_#1: }
176   \fontsize
177     { \fp_eval:n { \l__nycbullets_scale_fp * \use:c { f@size } } pt }
178     { \use:c { f@baselineskip } }
179   \selectfont
180 }
181 \cs_generate_variant:Nn \__nycbullets_select_font:n { V }

```

(End of definition for `\__nycbullets_select_font:n`.)

`\nycbullet`
`\nycbulletsetup`
`\nycbulletfont`

```

182 \NewDocumentCommand \nycbullet { o m }
183 {
184   \group_begin:
185     \IfValueT {#1} { \keys_set:nn { nycbullets } {#1} }
186     \nycbullets_bullet:n {#2}
187   \group_end:
188 }
189 \NewDocumentCommand \nycbulletsetup { m }
190 { \keys_set:nn { nycbullets } {#1} }
191 \NewDocumentCommand \nycbulletfont { o }
192 {
193   \IfValueT {#1} { \tl_set:Nn \l__nycbullets_set_tl {#1} }
194   \__nycbullets_resolve_set:V \l__nycbullets_set_tl
195   \__nycbullets_load:V \l__nycbullets_id_tl
196   \__nycbullets_select_font:V \l__nycbullets_id_tl
197 }

```

(End of definition for `\nycbullet`, `\nycbulletsetup`, and `\nycbulletfont`. These functions are documented on page 1.)

```

198 \endpackage

```

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